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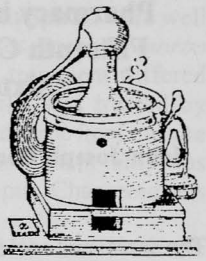

The Journal of The British Society for the History of Pharmacy
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Diary

6-8 April 2001
BSHP Annual Spring Conference at the Jarvis International Hotel, Boundary Road, Norwich.

Wednesday 9 May 2001
'Pharmacy and complementary medicine: a historian's perspective on where we are going' by Dr John Crellin. *Please note the change of date.*

19-22 September 2001
35th Congress for the History of Pharmacy at Lucerne, Switzerland. Further details from SGGP, c/o Schweizerischer Apothekerverein, Stationsstrasse 12, 3097 Bern-Liebefeld, Switzerland. Tel. +4131 978 5858.

Thursday 15 November 2001
'The Sesquicentenary of the Scottish Department of the Royal Pharmaceutical Society' to be held at 36 York Place, Edinburgh.

Museum of the Royal Pharmaceutical Society Events 2001
The Museum is holding the following events and exhibitions during 2001. Further details are available from the Museum office, RPSGB, 1 Lambeth High Street, London SE1 7JN on 020 7735 9141 ext 354.

Healing Science: pharmacy past pharmacy future – an exhibition exploring how changing theories and knowledge of the human body have affected the use of medicinal drugs through a thousand years – open **all year**.

5 March – 25 May 2001
Biomedical Image Awards – an exhibition of outstanding contemporary images from the Wellcome Trust Medical Photographic Library

Guided tours of the Museum displays and the Royal Pharmaceutical Society's rooftop views over central London are available to members and the public all the year round. From **January to April** and **August to November** tours start at 2.30 p.m. on the last Thursday in each month; during the summer, from **15 May to 26 July** special tours start at 2.30 p.m. every Thursday. Bookings are not needed and a donation is welcomed.

Saturday 14 July 2001
Lambeth Pharmacy History Show – As part of the Vauxhall Festival, the Museum is opening from 12 to 5 p.m. for an afternoon of exhibitions, demonstrations and talks with special emphasis on plant-based medicines.

Sunday 23 September 2001
London Open House Weekend. Guided architectural tours of the Society's HQ building, 10a.m. to 5 p.m.

BSHP at the British Pharmaceutical Conference
There will be a History of Pharmacy session on Tuesday 25 September at the BPC, to be held at the Scottish Exhibition and Conference Centre, Glasgow 23-26 September 2001.

Postcards and greetings cards from the Museum
From February 2001 a new range of 24 postcards and 4 greetings cards has been on sale on behalf of the Museum from the Library issue desk at 1 Lambeth High Street. All the cards show images or objects from the Museum's fine collections.

The new postcards depict a variety of historical and pharmaceutical subjects. They include caricatures from the 18-19th century, images of pharmacists and pharmacies, cartoons and illustrations of pharmacy equipment and drug jars. Some examples are reproduced with permission inside the back cover.

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Pharmacy in Malta from the Late Fifteenth Century until the Mid-Sixteenth Century

John Joseph Borg BPharm, MSc (Agric. Vet. Pharm.)

The social and ecclesiastical life of mid-fifteenth and early sixteenth century Malta was centred around the medieval capital of Mdina and the suburb of Rabat, while maritime trade flourished in the coastal town of Birgu.[1] The first documented pharmacist in Malta was Mastru Salvatore Passa, who practised the art of pharmacy in Mdina under State control through the laws of Frederick II.[2]

Before 1500, pharmacists in Malta were practically all Sicilian. This is evidenced from the names of the *aromatarii* — 'Mastru Salvatore Passa, Mastru Paulo de Noto, Rufrigiato di-Modica, Jarratana, and Specianò'.[3] They were all employed by the town council of Mdina (known as the *Università*), under the same conditions as those of the town doctor.[4]

Mastru Salvatore Passa was a practising pharmacist from 1450 to 1475, serving both in the town of Mdina and the Hospital of Santo Spirito[5] in Rabat.[6] This was not the first time Passa was employed by the Maltese municipality. During the great outbreak of plague in 1427-28, he is recorded as helping hundreds of unfortunate victims.[7] From 1450 to 1475 he travelled quite frequently to Sicily in connection with his duties, presumably to import medicinal herbs. On 15 November 1469, a meeting of the *Università* was held to discuss his salary.[8] As on several previous occasions, he asked to be reimbursed for the expenses he had incurred to import herbs and other similar commodities for the hospital's pharmacy.

Mastru Paulo de Noto was another pharmacist employed under similar conditions by the *Università*.[9] He received his licence to practise pharmacy from the Sicilian *Protomedico*. He was not allowed to charge higher prices for his remedies than those current in Palermo, and as a result he soon felt unenthusiastic about these conditions and left the island.

In January 1477, according to Stanley Fiorini, the *Università* employed Mastru Johanni Rufrigiato. Fiorini claims this on the basis of a reference to the payment of one *Uncia Bona*[10] to Rufrigiato by the *Università*. In 1480 Mastru Micheli de Specianò appears to have taken over.[11]

The first recorded Maltese pharmacist, Mastru Geronimo Callus,[12] was employed by the *Università* between 1491 and 1515 in the capacity of town and hospital *aromatario* for an annual salary of 8 *Uncie Boni*. Sadly, in 1515 his pharmacy caught fire. In those days, medicines could be purchased from the hospital's pharmacy by the public, and these dispensed medicines were recorded in pharmacy ledgers kept by Callus. The practice of recording dispensed medicines was necessary and important, and legal action could be sought from the Viceroy if a person refused to pay for the medicaments he had been given.[13]

In 1520 Antoni Zammit was Santo Spirito's *speziale* (pharmacist) but Callus was still on the hospital's records.[14] In 1519 Callus, his son Antonio, and Zammit are known to have had a dispensary run on a partnership basis. This partnership however, had soon to be dissolved by order of the *Università*.[15] In 1549 Jacobus Callus, Geronimo's youngest son, leased a pharmacy inside Mdina to Joannes Mondello. After Mondello's death in 1559, his stepson Martin Zarb took over the pharmacy. Zammit's pharmacy in 1559 is known to have been situated in Mdina's main square.[16] Between 1560 and 1573 Fabritus Zammit managed the hospital's pharmacy. From 1573 to 1580 Antoni Bisci took over the hospital's pharmacy, and also lived there.

Medicines prescribed in those days were mostly of herbal origin, the therapeutic use of which originated from the Arabic school of pharmacy and was passed on to Malta during the Muslim domination of the islands between 870 and 1200. Most of the herbs used had to be imported from Sicily as they did not form part of the local flora. Medicaments were prepared skilfully by using a balance, pestle, and mortar.

The Apothecary system of weight measurement was used in the dispensary of Santo Spirito, with Roman numerals and the symbols of the Pound, Ounce, Drachm, Scruple and Grain.[17] The ingredients used in the fifteenth century included honey,[18] olive oil,[19] castor oil, chicken fat as a base, rosemary, mint, and alum powder. The preparations were usually powders, syrups, tea infusions, ointments, pills, and suspensions.[20]

Pharmacists in the early fifteenth century were employed either by the *Università* or the Hospital of Santo Spirito. When the Order of St John assumed political control of the island in 1530,[21] they employed *Aromatarii* to take care of the dispensary inside the Infirmary at Birgu. Still the *Università* employed a town pharmacist to take care of the needs of Rabat and Mdina. Like all other professionals, pharmacists were paid in Sicilian currency, which was the hard currency at the time. This was important because it allowed them to procure ingredients and other materials from Sicilian merchants. The annual salary of a pharmacist employed by the *Università* was ten *Uncie Boni* which was ten times that received by a policeman, and fourteen times that of a labourer.[22] The annual salaries of *Università* employees can be seen in table 1.

Medicaments prepared by the *aromatario* at Santo Spirito were only dispensed on presentation of a prescription drawn by the surgeon or physician in charge. These remedies were usually provided free

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Table1. Annual salaries of *Università* employees.

Position	Salary*	Currency
Hospital attendant	1 uncia bona	Sicilian
Doctor	40 uncia boni	Sicilian
Pharmacist	10 uncia boni	Sicilian
School master	3 uncia boni	Sicilian
Cathedral choir master	4 uncia boni	Sicilian
Cathedral organist	10 uncia pond	Sicilian
Cathedral steward	2 uncia boni	Sicilian
Municipal treasurer	3 uncia boni	Sicilian
Jurati	3 uncia boni	Sicilian
Judge	2 uncia boni	Sicilian
Policeman	1 uncia boni	Sicilian
Guard	1 uncia pond	Sicilian
City gunner	4 uncia 12 tari boni	Sicilian
Blacksmith	2 uncia pond	Sicilian
Labourer	5 uncie pec	Maltese
Assistant craftsmen	10 uncie pec	Maltese
Craftsmen	10 uncie 2 tari pec	Maltese

*Data on the salaries of employees from: Fiorini, S. Malta in 1530. In: Mallia-Milanes, V., ed. *Hospitaller Malta 1530-1798: Studies on early modern Malta and the Order of St John of Jerusalem.* Malta: Mireva Publications, 1993: 115.

for the sick or injured, the poor and the foundlings deposited at the hospital. This practice remained unchanged during the Knights' rule, but stricter measures were established. If, for instance, a patient required free treatment from the apothecary of Birgu which supplied the Holy Infirmary, he had to be certified sick by the practising physician, and of a good moral conduct by the parish priest. Both certificates were to be submitted to the Grand Master who would then grant him permission to obtain free medicine from the Order's pharmacy.

Table 2 lists some of the medicaments that were prepared in the pharmacy at Santo Spirito in 1546.

The physicians working at Santo Spirito were well acquainted with certain diseases such as *morbo gallico* (venereal disease). The treatment differed according to the disease: syphilis was treated by *Digestivi 1 2 3 4 5*, a liquid ointment made from tincture of aloes, turpentine, egg yolk and basil. This was believed to free the wounds from pus. Chancroid was treated by *Aegyptiacum.*

Preparations to treat venereal diseases were the most frequently made by the *aromatario* (apothecary), and each treatment cost 6 Tari 18 Grani. If the patient failed to pay for the medicine, the *aromatario* could of course seek legal action.[25]

The work of the *aromatario* at the pharmacy of Santo Spirito did not consist solely of making extemporaneous preparations. It included the task or responsibility of keeping a sufficient stock of the materials needed, storing them in jars which were artistically decorated, and then recording his daily activities in writing on folios. This latter practice provided all the information in our possession on the activities of this pharmacist.[26]

In these folios written in 1546 the pharmacist of Santo Spirito gave a prescriptions list of the medicines he dispensed, to whom he dispensed them, where the patients came from, and the name of the doctor who had written the prescription. In a sense this prescriptions list may be considered somewhat similar to a Patient Medication Record, which is becoming increasingly important in pharmacy practice today.

References and endnotes

1. Cassar, P. Inventory of a Sixteenth Century Pharmacy in Malta. *St Luke's Hospital Gazette* 1976; 11 (1): 26-34.

2. Frederick II (1194-1250), Holy Roman emperor, king of Sicily and Jerusalem, was son of the emperor Henry VI and Constance of Naples, daughter of Roger I, king of Sicily, and therefore grandson of the emperor Frederick I. He was crowned emperor at Rome on 22 November 1220.

Table 1.2. Medicaments prepared at the pharmacy of Santo Spirito Hospital.*

Medicament	Ingredients	Use	Dosage Form
Aegyptiacum	Vinegar, honey and verdigris ointment	Wound and ulcer purative	n/a
Aloe	Pulp of *Aloe barbadensis* Mill.	Purgative[23] and analgesic	n/a
Aqua Fortis[24]	Nitric acid	n/a	n/a
Alumen	Alumen (a mineral salt obtained by heating rocks)	To cicatrize wounds	n/a
Canellae	Cinnamon distillate	Antipyretic and tonic	Solution
Diacatholicon	Cassia, tamarind, rhubarb, violets, aniseed, and sugar	Analgesic	Syrup
Diaphoenicon	Dates	Stool softener	Pulp
Diaquilon Nigrum	Althaea roots, lead monoxide, and oil	Emollient	n/a
Farinarum	Flour of chick peas, lentils, beans, lupins and barley	A resolvent	n/a
Foetidae Pillulae	Turpeth, sagapenumand, myrrh	n/a	Pills
Hamech	Thyme, anise, ginger, absinthe and scammony	Venereal disease	Mixture
Jera	Aloe, spikenard, honey, mastic and agaric	Blood purifier	Syrup
Julep Violarum	Distilled violets and sugar	Relieves fevers	Tonic

* Compiled from: Fiorini, S. A Prescriptions List of 1546. *Maltese Medical Journal* 1988; 1 (Wint): 19-31.

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3. Fiorini, S. Malta in 1530. In: Mallia-Milanes, V., ed. *Hospitaller Malta 1530-1798: Studies on Early Modern Malta and the Order of St John of Jerusalem.* Malta: Mireva publications, 1993: 115.
4. Wettinger, G. *The Jews of Malta in the Late Middle Ages.* Malta: Midesa Books Ltd, 1985: 109-111.
5. Santo Spirito, which was called St Francis hospital, was the only hospital on the island before the Knights came to Malta in 1530. It was situated in Rabat, and its first reference dates back to 4 December 1372. It could only keep twelve patients at a time. This hospital had its own revenues, by renting land that had been donated to the institution. It was governed by the *Università* which usually decided what maintenance and civic needs were required. The hospital had to take care of any type of illness; it also took care of the paupers, offering food and rest. Foundlings were also taken care of, by giving them to a paid wet nurse. Prostitutes also could benefit from free medicaments. The medical staff included a surgeon, three doctors and a pharmacist. These not only had to take care of the sick of the hospital but also of the whole surrounding area. There was also a priest at the hospital.
6. Fiorini, S. *Santo Spirito Hospital at Rabat, Malta: he early years to 1575.* Malta: Dept of Information, 1989: 65-68.
7. Borg, J. Pharmacists of old. *The Pharmacist, Journal of the Chamber of Pharmacists-Trade Union* 1982; 4 (Jul): 16.
8. Leopardi, E.L. Bandi of the XV century. *Melita Historica* 1959; 1: 253.
9. From the beginning of the fifteenth century till the first quarter of the sixteenth century Malta's government was in the hands of the Town council, known as the '*Consiglio Popolare-Università*'. This included the *Capitano Della Verga*, four *Giurati*, a *Judex literatus*, a notary, the castellan and the consumer-protection officers, who were responsible for the control of prices and hygiene. These were all elected for one year, and they employed town carriers to announce their *bandi* (price lists).Through their fines and leasing of warehouses in the city of Mdina and Rabat, they obtained enough revenue to employ a town physician, surgeon, and pharmacist.
10. Before 1530 both local and Sicilian currency were used. Both currencies were reckoned in *Uncie* worth 30 *Tari*, the *Tari* worth 20 *Grani*, and the *Grano* worth 6 *Denari* or *Pichuli*. The Sicilian currency was referred to as *Ponderis Generalis* and *Bona Moneta*, whilst the local currency was referred to as *Pecunia* Malta. The Sicilian gold coin *Trionfo* was in use by 1490; this was identical in value to the Venetian golden *Ducati*. The Sicilian currency was worth seven times more than the local currency.
11. Fiorini, S. Reference 6: 65-68.
12. Geronimo Callus was the father of the very well known physician Joseph Callus. Callus's son was employed by the *Università* during the 1530s as a town doctor earning an annual salary of 30 *Uncie Bone*.
13. Borg, J. Reference 7: 16.
14. Fiorini, S. Reference 6: 66.
15. Fiorini, S. Reference 3: 149.
16. Fiorini, S. Reference 6: 67.
17. Fiorini, S. A Prescriptions List of 1546. *Maltese Medical Journal* 1988; 1 (Winter): 19-31.
18. Borg Millow, M. *Honey in Pharmacy* [Dissertation]. Msida, Malta: Department of Pharmacy, University of Malta, 1988: 6-10.
19. Caruana, R. *The Analysis and Production of Olive Oil* [Dissertation]. Msida, Malta: Department of Pharmacy, University of Malta, 1988: 20-40.
20. Fiorini, S. Reference 17: 20-25.
21. Malta was donated to the Order of St John of Jerusalem ostensibly as an act of generosity by King Charles V of Spain in 1530.
22. Fiorini, S. Reference 3: 165-172. Labourers were usually slaves. They used to be paid in Maltese currency, had hardly any rights and were treated very badly.
23. Zerafa, L. Medicinal Plants: *Aloe barbadensis* Mill. *The Pharmacist, Journal of the Chamber of Pharmacists* 1987; 14 (Jan): 26-30.
24. This is an indication of Western Pharmacy trends, since no evidence exists that the Arabic School of Pharmacy was aware of this preparation.
25. Wettinger, G. *Acta Iuritorum et Consilii Civitatis et Insulae Maltae.* Palermo: Associazione di studi Malta-Sicilia centro di studi Filologici e Linguistici Siciliani, 1993: 700.
26. *Archivum Cathedralis Mdina*, Misc. 441 (1546) 30v.

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The Overseas Drug Trade of Colonial India

Professor Harkishan Singh

During the colonial days, the British commonly used for India such expressions, as the country being their 'greatest possession' and 'dependency.' From the commercial angle India was their 'best customer'. It was only to be expected that the trade was built to the advantage of the coloniser. The natural produce constituted the items of export and manufactured products entered as valued imports.

A general introduction to the export-import business which existed may be useful before delving into the colonial drug trade. A composite picture of the export and import of drugs is presented here. Raw drugs were exported. The finished drugs and medicines came in from abroad and sustained the new medical system which had been successfully introduced. There was lucrative trade particularly in proprietary and patent medicines. The retail and wholesale drug business continued to be largely dependent on imports. The Indian drug industry had made a beginning but remained at a rudimentary stage.

Foreign Trade in General

British India carried out trade with various countries. The bulk of the business was with the UK, which by the close of the nineteenth century accounted for three-fifths of the whole volume.[1] Far behind came China, then France, the Straits Settlements, the USA, and Italy. The trade with Germany was very small at the time. The principal manufacturing nations eyed India for exports.

During the financial year 1887-88, exports amounted to Rs919,854,160 and imports were valued at Rs762,106,690.[1] The figures were exclusive of goods imported and shipped for the Government account. The principal export items in order of their relative importance were cotton 14.5, opium 10, seeds 9.5, husked rice 9.25, jute 6, wheat 5.5, and tea 5. India's trade was primarily seaborne, and overland trade with her neighbouring countries was infinitesimal. The trade through the five largest Indian ports, roughly speaking,

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were in the following proportions, in millions of rupees: Bombay, 910, Calcutta, 708, Rangoon, 148, Madras, 111, Karachi, 89.

The export trade was largely from Calcutta, but for import and coasting business she was nowhere compared with Bombay. Bombay was considered to be the commercial gateway to India.

In world trade, India's place was sixth in 1913, and fifth in 1925.[2] In 1924-25 Indian exports were nearly Rs385 crores*, re-exports of foreign goods Rs 13.5 crores, and import of merchandise was Rs247 crores; the grand total of imports, exports and re-export of private merchandise amounted to Rs 645 crores.[3, 10] Before the first world war, the UK supplied India with more than 60 per cent, of her imports, and still, around 1925, more than half of the imports into India originated from there.[2] In the interval there was rapid expansion of quotas of Japan and the United States, and the trade of the European continent with India also expanded to a certain extent. India's 1925 purchase figure of £86 million of British goods was much larger than that of the Dominions, Australia coming next with £60 million; the goods were chiefly manufactured products.[2] Britain remained the best overseas market for Indian exports.

Mahatama Gandhi's non-cooperation movement was considered to be a factor contributing to trade depression in the 1920s.[4] By 1928-29 Britain's share of total Indian imports shrank to less than 45 per cent.[5] The principal competitors now were Germany, the United States, Japan, Belgium, and Italy.

After this general description of the world trade of colonial India, we can consider the export of raw drugs and import of drugs and medicines.

Export of Raw Drugs

Certain raw drugs produced in India were commercial items of export. Most prominent among them were opium, cinchona, nux vomica, and senna.

Opium

Opium was one of the principal articles of export from India. In fact in export trade it was second only to cotton. Because of the importance of the item, opium was listed separately in the statistics, and not combined with drugs and medicines.[6] British India in 1863 exported opium to the value £12,494,128, and in 1872 £13,365,228. The exports faced competition from the produce of Persia and China.[7] During 1903-04 exports of opium showed an increase in quantity and value to the highest attained in twenty-five years.[8] A total of 73,637 chests was exported, having a value of Rs10,47,01,638*. The year's average price at Rs1460 was greater than that of any year since 1861-62. The opium exports of some subsequent years were valued at £6,233,000 in 1908-9,[9,10] £2,280,031 in 1913-14 and £1,175,639 in 1914-15 respectively.[11] The opium exports for 1918-19 came to a total of Rs4,20,15,975*, of which Rs3,12,90,750* were on private account and Rs1,07,25,225* on governmental account.[12] It was stated that:

> the Indian Government has done its best to restrict the growth of the opium poppy and to rigidly control export for legitimate purposes only. The export is now about 12,000 cwt (1 cwt = 50.8 kg = 0.0508 metric tons).[13]

In 1929, 888,801 lb [403 metric tons] of opium were exported, of which 87,000 lb [39.5 metric tons] went to the UK for the manufacture of morphine and other drugs.[14]

Cinchona

Cinchona was the other important raw drug exported. The plantation of cinchona had been started by the British in Nilgiri hills in the Madras presidency and in British Sikkim (near Darjeeling hills). In Madras the plantation was in private hands but the principal estates in Bengal were the property of the Government.[15] In 1882-83, 641,608 lb of cinchona were exported, whereas seven years earlier only 72,452 lb were exported.[15] The cinchona exports continued to expand and reached 1,286,900 lb in 1886-87.[7] The export trade in cinchona remained almost confined to Madras, the yield of the Bengal Government plantations being principally made into a febrifuge for local consumption. The exports mostly went to the UK. There were violent fluctuations in the shipments of cinchona bark.[16] It was not clear whether there was an extension in cinchona planting or the planters took advantage of the high unit price. The export figures came down in later years.[17]

1895-96	939,938 lb
1896-97	321,478 lb
1897-98	3,056,769 lb
1898-99	1,361,539 lb
1899-1900	3,230,236 lb[16]
1900-01	2,753,858 lb
1901-02	1,917,259 lb.[17]

For some years the exports stabilised between 6 and 700,000 lb per annum:

1913-14	605,102 lb (valued at £8,289)
1916-17	688,543 lb (£11,680).[11,18]

The year 1917-18 was a lean period when only 40,180 lb (£564) of cinchona were exported.[11] The cinchona bark exported during 1925-26 was valued at Rs2.45 lakhs, against Rs2.93 lakhs in the previous year[19] and the UK was the chief consumer. In 1928-29 exports amounted to only Rs90,000.[20]

Nux vomica

Nux vomica exports varied from year to year:

1912-13	41,518 cwt (valued at £14,408)
1915-16	59,225 cwt (£30,760)
1918-19	62,158 cwt (£57,606).[21]

Exports in 1928-29 were worth Rs 3 lakhs.[20] On average, something like 40,000 cwt of nux vomica were shipped annually from India, the destinations being the UK, Germany, Holland, France, Belgium and the USA.[22] Strychnine at the time was an important drug item. A brisk demand for Indian nux

*Values in rupees are stated in the Indian system of lakhs and crores. A lakh is a unit of value equal to 100,000 rupees (Rs) and a crore is equal to 10,000,000 rupees or 100 lakhs. Hence the value Rs10,47,01,638 means 10 crores, 47 lakhs, and 1638 Rupees.

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vomica continued from the USA and UK.[23] Between 1 September 1941 and 1 July 1942 the total exports were estimated to be about 2,200 tons, valued at Rs9,76,554, against the normal pre-war figure of about 1,500 tons.

Senna

Regarding senna, Professor H.G. Greenish observed that India produced the major portion of the world's supply; the claimed superiority of Alexandrian senna had yet to be satisfactorily established.[24] The figures for the export of senna during the second decade of the twentieth century are:

1913-14	26,450 cwt (valued at £26,425)
1916-17	103,333 cwt (£202,859)
1917-18	44,155 cwt (£53,586).[11]

It was reported that during 1912-13 drugs worth £125,000 were exported, consisting largely of nux vomica and senna.[25] The total exports of Indian drugs and medicines, excluding chemicals and narcotics, during 1916-17 and 1917-18 were valued at £351,502 and £172,678, respectively.[11] In the year 1928-29 exports of drugs and medicines amounted to Rs41 lakhs (Rs34 lakhs in 1927-28), of which senna export accounted for Rs9 lakhs.[20] The good demand for senna continued, particularly from the UK, Europe and America.[26]

Import of Drugs and Medicines

Certain raw drugs were imported which were not available in India. The Drugs Enquiry Committee had recommended that import duty on such crude drugs should be abolished or appreciably reduced.[27,28] The import duty put the Indian drug industry at a disadvantage. The manufacturing firms engaged in the pharmaceutical industries approached the Government of India for abolition of the duties, 30 per cent *ad valorem* at the time, on raw drugs imported from overseas.[29]

Drugs like aloes and asafoetida were imported but were partly meant for re-export. *Cassia lignea,* sarsaparilla and storax were specifically mentioned, but there must have been many other crude drugs on the import list. Camphor, a natural product partly meant for re-export, continued to be imported in large quantities. It mostly came from Japan (or rather Formosa), Hong Kong and China.

The focus of imports was more on finished products, prepared from the drugs of foreign origin and also from Indian exports. All this was necessary to keep the new western system of medicine going. Pharmaceutical preparations were imported on an extensive scale. These included vegetable extracts, powders, pills, pastilles, ointments etc. Morphine and opium preparations were imported. Quinine salts isolated from the cinchona exports constituted an important item of import. The most valuable was the business in proprietary and patent medicines which largely originated abroad. All types of medicinal, pharmaceutical and biological products were imported into British India.

Table 1 gives an overview of the import of drugs and medicines, excluding chemicals and narcotics. Several other categories of drugs and medicines exist; in the table a separate mention is made only of figures on quinine salts and proprietary and patent medicines. Certain aspects of the last two are dealt with separately below.

Table 1. Imports of drugs and medicines into India

Fiscal year	Ref	Total import of drugs and medicines	Import of quinine salts	Import of proprietary and patent medicines
1904-05	30	Rs70.74 lakhs	-	-
1909-10	31	£601,300	£62,500	£154,000
1915-16	11	£819,635	-	£137,530
1920-21	32	Rs211 lakhs	Rs35 lakhs	Rs28 lakhs
1923-24	33	Rs181 lakhs	-	Rs21.5 lakhs
1928-29	20	Rs202 lakhs	Rs24.5lakhs	Rs42 lakhs
1931-32	34	Rs191 lakhs	Rs25.5lakhs	Rs46 lakhs
1935-36	35	Rs211 lakhs	Rs26.2lakhs	Rs64.2 lakhs
1936-37	36	Rs207 lakhs	Rs23 lakhs	Rs68 lakhs
1937-38	37	Rs236 lakhs	Rs26.8 lakhs	Rs74 lakhs
1938-39	38	Rs220.5 lakhs	Rs26 lakhs	Rs61 lakhs

From 1920 onwards for almost two decades the total yearly import of drugs and medicines generally centred around Rs 200 lakhs as against about Rs 37 lakhs worth of drug exports.[39] During the first world war the import trade in drugs and medicines increased, but shipments from the UK receded.[40] The principal competitors were Japan and the United States. Later, Germany and Italy also entered the competition. The UK share in the import of drugs and medicines in 1923-24 was 65.8%, with Germany (17%) and Italy (5.8%) coming next and the United States losing ground (2.9%).[33] The UK share steadily fell; correspondingly the shares from Germany generally appreciated, with Japan and the United States also having considerable business (see Table 2).

Table 2. Shares of import business in drugs and medicines

Country	Fiscal year	Share of imports % (Ref)
United Kingdom	1925-26	46[41]
	1926-27	41[42]
	1931-32	34[43]
	1937-38	27[45]
Germany	1925-26	11[41]
	1926-27	16[42]
	1931-32	22[43]
	1937-38	26[45]
Japan	1925-26	14[41]
	1926-27	12[42]
	1931-32	9[43]
	1937-38	11[45]
United States	1925-26	7[41]
	1926-27	8[42]
	1931-32	10[43]
	1937-38	8[45]

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The advantages which Germany had in business were attributed to their low prices as compared with England and America.[44] Before the second world war, in 1937-38, the import of medicinal and pharmaceutical products originating from Germany had advanced at the expense of the UK, United States, and Japan.[45] British sources of drugs and medicines experienced an increasing degree of competition from other countries. To benefit British exports to India, an agreement was reached in 1932 between the UK and British India at the Imperial Economic Conference at Ottawa.[46] The agreement provided for exchange tariff preferences on important classes of goods, including drugs and medicines, on a 10% *ad valorem* basis. So while items of foreign origin were charged *ad valorem* duty of 30%, those of British origin were subject to 10% preference.[47] This contributed a marked advantage for British exports to India and it was thought that the British exporters' share would increase. But the expectations of an increase of export of drugs and medicines to India from Britain because of the 10% trade advantage did not materialise.

It has been shown that the total imports of drugs and medicines from the UK rose from £373,000 in 1912 to £590,000 in 1937.[48] Correspondingly the imports under the head from other sources showed more extensive expansion, from £330,000 (1912) to £1,064,000 (1937).

In the British Isles there was always resentment if there were a development in India which was favourable to the Indian industry. For example, the reduction in spirit duty on spirituous medicinal and toilet preparations in Bengal and Bombay presidencies was not liked as it disadvantaged the wholesale druggists exporting tinctures, galenicals and other spirituous preparations to India.[49] It may be mentioned that the Drugs Enquiry Committee had recommended a 5% increase in import duty on manufactured drugs.[28, 50]

Quinine salts

In respect of the import of quinine salts, there used to be severe competition from Java[32]. As the years passed, the competition from Java decreased (see Table 3) and Germany increased their share[43] and eventually became the principal supplier of quinine salts.[54]

Proprietary and patent medicines

Proprietary and patent medicines were eagerly sought after items of consumption that provided valuable business. There was a large-scale import of these preparations from the very early years.[55-57] From 1905-06, proprietary and patent medicines were listed separately in the statistics. In that year Rs 12.54 lakhs worth of proprietary and patent medicines were imported.[30] The British principally traded in patent medicines, of which they provided nearly two-thirds.[40]

Table 3. Shares of quinine salts imports

Country	Fiscal year	Share of quinine imports % (Ref)
United Kingdom	1920-21	40[32]
	1926-27	62[52]
	1929-30	52[53]
	1931-32	31[43]
Java	1920-21	45[32]
	1926-27	7[52]
	1929-30	4[53]
	1931-32	7[43]
Germany	1926-27	24[52]
	1929-30	29[53]
	1931-32	42[43]
Holland	1929-30	4[53]
	1931-32	8[43]
United States	1926-27	4[52]
	1929-30	4[53]
	1931-32	2[43]

The other countries started competing with Britain, and America and Japan made great progress during the first world war. During 1920-21, the UK still provided 56% of the imports, but America (24%), Japan (8%), and France (7%) also had a substantial share.[51] The import of proprietary and patent medicines then increased.

Table 4. Imports of patent and proprietary medicines

	Fiscal year	Value Rs lakhs	Share %	Ref
Total	1927-28	29	-	52
	1929-30	48.6	-	58
	1931-32	46	-	58
	1936-37	68	-	36
	1937-38	74	-	37
	1938-39	61	-	38
UK	1927-28	-	54	52
	1929-30	-	50	58
	1931-32	-	47	59
	1936-37	29.5	-	36
	1937-38	31.8	-	37
	1938-39	27	-	38
Germany	1927-28	-	15	52
	1931-32	-	17	59
	1936-37	18	-	36
	1937-38	18.3	-	37
	1938-39	12	-	38
United States	1931-32	-	16	59
	1936-37	11.75	-	36
	1937-38	14.5	-	37
	1938-39	13	-	38
France	1931-32	-	10	59

However, the contribution by the UK started decreasing and Germany started increasing[59]. United States held 16% and France 10% shares in 1931-32. Before the second world war the main competitors

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for supply of proprietary and patent medicines to India remained the UK, Germany and the United States. During 1936-37[36] and 1937-38[37] the import figures rose, but in 1938-39 there was a fall in the import of proprietary and patent medicines.[38] During the years 1936-37 and 1937-38, the import of proprietary and patent medicines constituted around one-third of the total imports of drugs and medicines.

Two governmental committees made recommendations which partly pertained to patent and proprietary medicines. The Indian Taxation Committee appointed by the Government of India had, in its report published in 1926, recommended the advisability of laying a tax on patent and proprietary medicines, whether of local or overseas origin.[60] The contemplated imposition of tax on proprietary medicines was received with uneasiness and considerable disquiet by the interested parties,[61, 62] even though on an earlier occasion, the British drug trade lobby had expressed surprise at there being no stamp-duty on patent medicines made in India.[57] In Britain, duty had been levied on patent and proprietary medicines for over a century.[63] However, the Government of India was advised to drop the move.[64] It appears that the proposal for taxing patent medicines did not proceed any further.

Later, the Drugs Enquiry Committee (1930-31) carefully examined the position of the patent and proprietary medicines. The Committee recommended that every patent and proprietary medicine with a 'secret formula', manufactured in India or imported, should be registered on the lines of the Patent and Proprietary Medicine Act of Canada.[65] No false, misleading or exaggerated claims were to be permitted. The imported patent and proprietary medicines with secret formulas should, in addition to the existing customs duties, bear a special duty of 20% *ad valorem.*

Lastly, during the second world war the UK and the United States were generally the only sources left for the supply of drugs and medicines, and hostilities restricted the shipments even from these suppliers. In 1942, the Government of India set up an Advisory Panel on Drugs and Medicines with Sir R. N. Chopra as the chairman,[66] who had earlier presided over the Drugs Enquiry Committee.[27] The Panel was required to advise which drugs and medicines, other than those included in the official pharmacopoeias of the exporting countries, were essential for import into India. The panel met in December and prepared a questionnaire to collect the necessary information.[67] No further details on the panel have become available for study.

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Review

50 Years of the German Pharmacy Profession Die Geschichte der ABDA von 1950 bis 2000. Christoph Friedrich, 1st edition, 2000. Eschborn: Govi-Verlag Pharmazeutischer Verlag GmbH, pp. 375; (ISBN 3-7741-0813-7), DM 98.00.

The development of the German pharmaceutical profession after the collapse of the Wehrmacht in May, 1945 is a fascinating story of thoughtful leadership as the profession recovered from the tragedy of the Second World War. Commencing with the general structure, organisation and function of the interest groups in the Federal Republic the author discusses the origins of the pharmaceutical associations such as the Deutsche Apotheker-Verein, the German Pharmacy Association or Union (DAV) prior to the First World War (1914-1918) and then their survival under National Socialism. The major part of this book is, however, devoted to the rebirth of pharmacy after the Second World War (1939-1945), commencing with developments in the American, British and French zones of occupation. The situation in East Germany and the fate of East German pharmacists still requires research and explanation. The reconstruction of the pharmacy organisations, the DAV and the 'Apothekerkammern' or 'Chambers of Pharmacy', in the regions or länder of post-war West Germany revealed the need for a single overall organisation.

In March, 1950 at a Pharmacy Convention in Frankfurt-am-Main the foundation of a new organisation was proposed and in July of the same year at a Pharmacy Convention in Berlin the 'Arbeitgemeinschaft der Berufsvertretungen Deutscher Apotheker' (literally 'The Society for the Professional Representation of German Pharmacy') was established. Of this organisation Dr Hans Meyer stated "Es wird an uns liegen, diesem Namen Inhalt zu geben", a phrase meaning that "It is upon us to give substance to this name" and Dr. Friedrich uses this objective on the cover of his book. He discusses the politics of the fusion of DAV and BAK (Bundesapothekerkammern) into ABDA. The initial arrangements were modified in 1956 and ABDA established and staffed purpose-built offices in Frankfurt-am-Main in 1961. The retirement in 1965 of director Dr Hans Meyer, aged almost 70, marked the end of a long and faithful contribution to pharmacy, and changes occurred in the Directorate (members of which are listed for the years 1949-2000), the Advisory Council and the General Meetings (conventions from 1949 to 2000 are listed). Pharmacy emblems incorporating a three spoons motif or the capital 'A' are illustrated and described, the 'A' with snake and poison cup being the favoured logo.

Common offices for ABDA, BAK and DAV resulted in an organisation catering for practice, legal, commercial, information and public relation matters. In 1993 ABDA opened a new headquarters in Eschborn, supported by agencies in Bonn and Berlin, and a Brussels office for the European Union link to provide a comprehensive service for its members. The development of publishing, drug testing, museum and research services is traced and ABDA's involvement with registration, drug laws, pharmacopoeias and education is discussed. Finally scholarships, honours and awards are described with details of previous recipients.

This well written and presented book contains no English summaries but it fulfils an important role in pharmaceutical history as it provides illustrated potted biographies of the people who have played vital roles in the resurrection of organised pharmacy in Germany.

The text is supplemented by 140 literature references, a table of the 34 member organisations of ABDA, an index of 454 names mentioned in the text, and a list of 87 illustrations but unfortunately no index of subject matter, although this is to some extent offset by a detailed Table of Contents.

W.E. Court

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15th January 1913 – The Day Pharmacy in Britain Entered a New Era

Dr John Hunt

> 'On Wednesday last week the business of pharmacy entered upon a new era, and on that day many hundreds of prescriptions, which, prior to the full operation of the Act, would have been dispensed by the doctors who wrote them, were dispensed by chemists.' Editorial – *The Pharmaceutical Journal*, 25th January 1913.

Background

Until this event the practice of pharmacy in England and Wales differed from that in almost every other country in Europe, including Scotland, the only significant exceptions being two cantons in Switzerland. In England and Wales most doctors' prescriptions were dispensed by the doctors themselves, or by their staff, in both the rural and the urban situation. It is estimated that over 90% of prescriptions were dealt with in this manner. Many pharmacies rarely received a prescription and were almost entirely dependent for their survival on over-the-counter sales of medicines and other goods. Then, as now, they had to compete for a large section of this trade with non-pharmacist traders, frequently in price-cutting situations. The life of the community pharmacist was not easy. Reports from the Pharmaceutical Society's examiners suggested that some candidates had served apprenticeships in pharmacies where doctors' prescriptions were rarely, or never, seen. How had this strange situation come about, in which pharmacists were being trained to dispense prescriptions and examined on their ability to do so, but in many cases rarely or never did this. To understand the situation we must briefly consider the history of the English apothecary and the English physician.

The Society of Apothecaries

The College of Physicians was founded in 1518 and sought to restrict medical practice to its members. The origins of the apothecary are lost in the mists of time but in London they were formerly members of the Grocers' Company, founded in about 1373, until they established their own body, the Society of Apothecaries, in 1617. Their business was largely that of obtaining and compounding drugs and dispensing and selling medicines. By some, they were regarded as 'the physician's cook' but royal houses and large estates would usually employ their own apothecary, to supply spiced wines and other desirable supplies as well as medicines and dressings. The efforts of the College of Physicians to restrict the practice of medicine exclusively to their own members was doomed from the start. For example, it is estimated that there were only about 24 physicians in London in 1576, whereas the population of the capital in that century increased from about 50,000 to 200,000. People went to the apothecaries, the barber-surgeons (whose own company had been established in 1540) or to quacks, although the College of Physicians sought to prosecute such practitioners. There is a tradition that in the Great Plague of 1665 the physicians left London with their wealthy clients, leaving the apothecaries and priests to do what they could for the suffering populace. Be that as it may, by the mid-seventeenth century the apothecaries and the barber-surgeons moved increasingly into the area we would now regard as general practice. This brought about envy and jealousy and the physicians retaliated by opening dispensaries of their own.

The 'Rose Case'

An extended conflict, with the publication of pamphlets by both parties, became established. In 1701 the College sued an apothecary, William Rose, of St Martin-in-the-Fields, for treating a patient without the intervention of a physician. The Court found against Rose but the judgment was reversed by the House of Lords in 1704. This judgment established the position of the apothecaries in the treatment of patients and was a key element in the evolution of the apothecary into the general practitioner of the late nineteenth and the 20th century.

Following continuing disputes between the physicians, the apothecaries and the now emerging class of chemists and druggists, the Apothecaries' Act was passed in 1815. The Society of Apothecaries then became empowered to license practitioners throughout the country. The Act was intended to protect the public and to establish schools of medicine and pharmacy. In fact, its effects were restricted to those practising as apothecaries and did not affect other groups such as the druggists. The apothecaries were not university educated men. An apprenticeship to an established apothecary or surgeon-apothecary, as many came to be known, was usual.

Apothecaries and Doctors

So the apothecaries found themselves in a stronger position. It has been suggested that during this period the public were increasingly calling in the apothecaries direct and, addressing them as 'Doctor', thereby granting them the courtesy of a title which had previously been reserved for physicians holding a doctorate from a university. The public clearly regarded some apothecaries as being equally well qualified for the title. The description was obviously a convenient one which rapidly gained currency and in due course became universally applied to medical practitioners.

The Chemists and Druggists

The dispute between the physicians and the apothecaries encouraged the physicians to direct their prescriptions to the Chemists and Druggists, thereby

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denying dispensing and the supply of drugs to the apothecaries and encouraging the business of the Chemists and Druggists. Thus, by the time of the foundation of the Pharmaceutical Society in 1841, many apothecaries, licensed by the Society of Apothecaries under the 1815 Act, were carrying out the work of general practitioners, or family doctors, but had continued with their earlier dispensing traditions, thus seeking both to prescribe and to dispense.

The Chemists and Druggists, now well established as compounders and suppliers of medicines were, insofar as dispensing was concerned, limited to serving the needs of the consultant physicians in the larger centres of population. In Scotland, as in other countries in Europe, apothecaries had limited their activities to those now regarded as the province of the pharmacist, while the physicians had continued to limit their activities to diagnosis and prescribing. Indeed, in England and Wales, not all apothecaries moved into the area of diagnosis and prescribing, but remained in the business of pharmacy, in some cases founding and developing well established enterprises, such as that of Allen & Hanburys, founded by the apothecary Sylvanus Bevan in 1715.

Liberal Government

A Liberal government came to power in December 1905 and, largely due to the influence of David Lloyd George, passed, over the next half-dozen years, a mass of legislation introducing Old Age Pensions, School Meals, the Medical Inspection of School Children, Labour Exchanges, Town Planning and, of particular interest to us, the great National Insurance Act of 1911. This huge stride forward in social legislation introduced unemployment benefit and free medical treatment for all employed persons in Britain. On 4th May 1911 Lloyd George, as Chancellor of the Exchequer, introduced the National Insurance Bill to Parliament. His speech included this reference:

> The first thing, I think, that ought to be done is to separate the drugs from the doctors, (Cheers) because the patient, as long as he gets something that is coloured and thoroughly nasty is perfectly convinced that it must be very good medicine. (Laughter) Therefore there ought to be no inducement for an underpaid doctor to take it out in drugs. (Cheers) I suggest there should be a separation of drugs and doctors, the doctors' business being confined to prescribing, it should be for the chemist to dispense. I believe that in Scotland, where they do most things well, that is the practice at the present moment ... wherever there is a chemist available, there should be separation.

This was a prelude to a huge battle between the Government and the British Medical Association, which resulted in a delay in the introduction of the medical benefits under the Act until January 1913. It was originally suggested in the Bill, that the once powerful Friendly Societies, which at that time had a huge membership and ran their own medical insurance schemes, should collect National Insurance contributions and contract with doctors and chemists to provide services. Neither the doctors nor the chemists wanted this, so apart from the B.M.A. the Pharmaceutical Society also had to address serious threats and problems. Within a few days of the introduction of the Bill, The *Lancet*, in a highly perceptive editorial, wrote:

> In view of the anomalous condition of pharmacy law this provision appears inadequate to secure that the dispensing of medicines for insurance patients should be done by pharmacists. Dispensing does not necessarily entail a sale, and under the pharmacy acts it is the sale of a poison by an unqualified person and not the dispensing of it which constitutes an offence. There is therefore nothing in the Bill which would prevent (friendly) societies from making arrangements for the dispensing of medicines by unqualified persons, and such dispensers need not be under the supervision of registered medical practitioners or pharmacists. Let it be assumed, however, that some clear amendment will be made for the dispensing to be done by qualified persons: this would not necessarily mean that pharmacists in business would be employed for that purpose; for friendly society officials have already indicated that they are considering the question of establishing a central drug depot and branch dispensaries for the supply of medicines to insurance patients. If this project is carried out it will be disastrous to a large proportion of pharmacists now in business, especially those in working-class districts.

The following months saw very vigorous campaigning, both by the B.M.A. and the Pharmaceutical Society. On 5th July a meeting in London was attended by over a thousand pharmacists, the largest ever gathering of the profession which had ever been held at that time.

The negotiations were led by William Glyn-Jones, later to become the Secretary and Registrar of the Pharmaceutical Society who had, fortunately, been elected as Liberal Member of Parliament for Stepney in 1910. The meeting agreed a negotiating position based on seven resolutions:

1. Supply of medicines only through premises registered under the Poisons and Pharmacy Act 1908.
2. Dispensing of prescriptions only under the direct supervision of a legally qualified pharmacist.
3. A panel of eligible pharmacists to be set up in each district for the supply of medicines at scale rates to insured persons, who should be free to choose their own pharmacists from the panel.
4. Remuneration by a scale system and not on a per capita basis.
5. Control of medical and pharmaceutical services to be by Health Committees and not Friendly Societies.
6. Pharmacy to be represented on Health Committees, the Advisory Committee and the Insurance Commission.
7. Medical benefit not to be extended to persons earning more than £160 per annum.

Following the meeting Glyn-Jones presented the resolution to Parliament. Following the committee stages of the Bill, the amendments included a para-

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graph:

> Clause 14 (2) b) iii) ....the regulations shall prohibit arrangements for the supply of drugs and medicines being made with persons other than persons, firms or bodies corporate entitled to carry on the business of a chemist and druggist under the provisions of the Pharmacy and Poisons Act 1908, who undertake that all medicines supplied by them to insured persons shall be dispensed either by a registered pharmacist or by a person who, for three years immediately prior to the passing of this Act, has acted as a dispenser to a duly qualified medical practitioner or a public institution.

Although the B.M.A. had sought to retain the doctors' right to dispense for their own patients, Lloyd George refused to accept this. The Act received the royal assent on 16th December 1911, bringing about, perhaps, the most significant change in the business of pharmacy in the twentieth century and establishing a pattern which was extended by the National Health Service Act 1946, and which set out the basis of primary healthcare for the rest of the century. The Act came into force on 15th July 1912 with the medical benefits commencing on 15th January 1913. Commenting a year later *The Pharmaceutical Journal* wrote:

> The lost art of pharmacy is reviving under the kindly influence of the National Insurance Act. The chemist has recovered or secured the dispensing of medicines, and how many men get a dozen or even a hundred prescriptions a day where before this Act they did not get one.

What motivated Lloyd George to introduce this major piece of legislation and to insist on the separation of prescribing and dispensing?

- Aspirations as a political reformer, which were by no means limited to health reforms, although health and social welfare held a high place on his agenda.
- His own social background as a 'cottage-bred man', familiar with the hardships endured by the poor and the problems of illness or death of the 'breadwinner'.
- Constant worries about his own health and that of his family. He appears to have been a hypochondriac and may, possibly, in the author's view, have had a distrust of doctors, following the premature death of his daughter following a failed operation for appendicitis.
- A particular interest in Germany and German affairs, resulting in a study of the German health and social security schemes, which then influenced the British system.
- The Poor Law, and its provisions, which he believed were unacceptable to the working man and his family, and needed to be replaced.
- Discussions with certain senior members of the B.M.A.

Influence on the National Health Service

When the National Health Service was established following the 1946 Act there was a relatively trouble-free introduction of dispensing services, based on the existing National Health Insurance Scheme which had functioned for over thirty years. In the absence of such a scheme, Aneurin Bevan might have considered other approaches, such as doctor dispensing or public dispensaries with salaried staff. In the event, as the historian S.W.F. Holloway has written, 'for the pharmacist the new service was "simply the old National Health Insurance Scheme writ large"'.

This paper was given at the British Pharmaceutical Conference at Birmingham in September 2000.

'An Intemperate Uncertificated Medico': The Hospital Pharmacist in Great Britain Before 1923

Dr Stuart Anderson

Introduction

Surprisingly little has been published about the history of hospital pharmacy in Great Britain, and even less has been written concerning its transformation during the course of the twentieth century. Previous writings have largely focused on its early development, such as the review by Whittet.[1] Other papers have documented the histories of individual hospital pharmacies, frequently in long established teaching hospitals.[2,3,4,5] Although some histories of hospital pharmacy institutions have been published in recent years[6,7] these have usually been of a commemorative nature.

This paper is mainly concerned with the period bounded by the formation of The Poor Law Dispensers Association in 1897, and the formation of the Guild of Public Pharmacists in 1923. Before doing so, however, it is necessary to briefly review the early origins of hospital pharmacy, and to consider its state of development by the end of the nineteenth century.

Hospital Pharmacy in Great Britain before 1900

The origins of pharmacy in hospitals date back to antiquity. Whittet suggests[8] that the first hospitals in Great Britain where pharmacy was practised were the Roman military hospitals, or *valetudinensis*. Such practice continued through medieval hospitals and monastic infirmaries, where the monks grew herbs and medicinal plants, and prepared medicines from them. Subsequently, the fortunes of pharmacy in hospitals largely followed the fortunes of hospitals themselves. The growth in the number of hospitals in the eighteenth century (many of which were the result of patronage by local benefactors), and later in the early nineteenth century (largely founded by doctors themselves),[9] was accompanied by a steady

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growth in the number of apothecaries employed by them.

During the eighteenth and nineteenth centuries the hospital apothecary combined the roles of maker of medicines and resident medical officer. Other duties were, however, often included. At both Westminster and St George's Hospitals in London, for example, the apothecary also acted as anaesthetist, and at St George's he in addition acted as medical electrician.[10]

These combined roles were to continue well into the twentieth century. Inevitably, with such mixed roles, the pharmaceutical aspects of the role were often neglected. It has been argued that 'the original development of the pharmaceutical service in hospitals was checked when the apothecary obtained recognition as a general practitioner of medicine, and explains why hospital pharmacy had to make a fresh start in the middle of the last [nineteenth] century'.[11]

The nineteenth century was a period of transition in both professional roles and identities, and also the titles used to describe them. The navy was the first to use the term 'dispenser', which was applied to Henry Blakey at Greenwich Hospital in 1713.[12] During this period civilian hospitals generally purchased their pharmaceutical supplies from retail pharmacists, called either apothecaries or chemists and druggists. Some of the larger voluntary hospitals did employ their own apothecary. However, the Apothecaries Act of 1815 confirmed the status of apothecaries as medical practitioners, and their duties tended to become those of resident medical officer rather than dispenser.

This raised the issue of what type of person could, under the supervision of the apothecary, be entrusted with the storage of drugs and the compounding of medicines, although in some cases the apothecary chose to retain the pharmaceutical side of the work himself.[13] The employment of 'hospital pharmacists', as a distinct group of specialists, began only when they succeeded to the posts vacated by the hospital apothecaries, or the dispensers where apothecaries had not been appointed. Where an apothecary chose to practise medicine he was often succeeded by an assistant apothecary who decided to stay with pharmacy, or he might have been replaced by an assistant who, after being trained, was known as the 'dispenser'. Around the middle of the nineteenth century these dispensers were in turn gradually replaced by qualified pharmaceutical chemists, or chemists and druggists.

Matthews has stated that by the time St Mary's Hospital opened in 1851 the day of the apothecary as the person responsible for the dispensing of medicines was already over, and a dispenser was appointed from the start. Elsewhere pharmacists began to replace apothecaries as the latter resigned. At St George's, for example, the last apothecary resigned in 1871, and a dispenser took over the pharmaceutical duties. In 1882 it was decreed that the dispenser must be a member of the Pharmaceutical Society, although by this time most post-holders had this qualification. The title changed to pharmacist only in 1919. At Westminster Hospital the title apothecary was used between 1719 and 1860, senior dispenser between 1860 and 1870, and pharmaceutist from 1870 onwards.

But the fact that some voluntary hospitals were employing pharmacists cannot disguise the fact that most public institutions chose not to employ pharmacists at all. There was no legal requirement to do so. The 1868 Pharmacy and Poisons Act dealt only with the *sale* of poisons, which left untouched practices in public institutions. Holloway points out that:

> Hospitals, infirmaries, asylums, sanatoria, dispensaries and poor law institutions (whether supported out of public funds and by public authorities, or by charities and voluntary subscriptions) were exempt from the legal requirement to employ qualified dispensers and to adhere to the regulations relating to the storage and supply of poisons to their patients.[14]

As Holloway concludes, 'there was a long way to go before the employment of registered pharmacists in public institutions was recognised as a necessity'.[15] A first step was for such pharmacists to work together. In 1897 The Poor Law Dispensers Association was formed, and in 1898 another organisation, The Public Dispensers Association came into being.[16] The latter was composed of London County Council asylum, prison and charity dispensers, and a few hospital dispensers. Its principal objectives were 'to protect and further the interests of public dispensers and generally to improve their position,' and 'to secure adequate remuneration for dispensers, and generally to raise their status.' Frederick Bullen, who went on to become a president of the Guild of Public Pharmacists, later recalled that, at the time the Association was formed:

> the dispenser was of no known origin, being perhaps *an intemperate uncertificated medico*, an ex-naval or army compounder, an Apothecaries Society diplomat, or less often, a chemist and druggist.[17]

Indeed, this view of the hospital pharmacist was still widespread in the 1920s. William Phillipson had started out in retail pharmacy in the Manchester area in the early 1920s, but because of his dislike of counter work, and on the advice of a knowledgeable proprietor pharmacist, he was persuaded to try hospital pharmacy instead. He recalls that:

> At that time it was considered a 'dead-end' profession, in evil repute, and certainly unremunerative. It was even said that only men who wanted time to drink and lacked ambition became hospital 'dispensers', but there were unlimited prospects for progress. The medical profession had not at that time taken over the ancillary departments, and as a pharmacist you were more closely involved in their day to day working.[18]

One of the first acts of the new Association was to write to the Pharmaceutical Society seeking its help in revoking a local government minute which permitted army compounders to take up Poor Law

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appointments. In 1900 the two Associations amalgamated to form The Public and Poor Law Dispensers Association, although they kept separate secretaries for each section. But for the first time pharmacists working across a range of public institutions were represented by a single organisation.

Hospital Pharmacy in Great Britain 1900 to 1923

At the turn of the twentieth century the lot of the hospital pharmacist was still a miserable one. Qualified pharmacists working in hospitals and institutions competed with dispensers, who held the Assistants' Certificate of the Society of Apothecaries, who invariably accepted lower wages.[19] The work consisted mainly of routine dispensing, and there was usually little scope for making use of the skills acquired during training, and even less for demonstrating powers of intellect or initiative. Many of these pharmacists were women; Holloway found that in 1908 more than sixty per cent of practising women pharmacists worked in hospitals and institutions.[20] Women not only cost less but had a keen eye for economy. More than one hospital management committee recognised the value of 'the rigid economy of a woman's administration and dispensing'.[21] Writing about hospital and infirmary dispensing in 1908, one such pharmacist, Margaret Buchanan, observed that:

> In such a position the orderliness and attention to detail, the tact and desire to please, which are supposed to be natural to most women, are a most necessary part of their stock in trade: and there have been not a few instances where women's business capacity, and an up to date knowledge of drugs, and economical methods, have led to practical appreciation on the part of committees.[22]

It was largely the exploitation of women pharmacists in the labour market that led to the foundation of an Association of Women Pharmacists in 1905. The Association established an employment bureau, which compiled a black list of badly paid posts, and put pressure on hospitals and other institutions to improve salaries and other conditions of employment. It also developed a training programme that involved the interchange of apprentices between retail and hospital pharmacy.[23]

The process of persuading institutional employers to take on only registered pharmacists to run their pharmacy departments was a slow and steady one. But by 1920 it was close to completion. In his annual report of 1921, the chairman of the Public Pharmacists' Association, Frederick Bullen, was able to report that:

> As in the past your Council has used every endeavour to ensure that registered pharmacists should be appointed to fill vacancies for the post of dispenser at public institutions. It is satisfactory to record that most public bodies now stipulate that candidates for the post of dispenser must hold the pharmaceutical qualification.[24]

The Poor Law Section of the Public Pharmacists Association reported to the Council of the Pharmaceutical Society in 1921 that:

> Since 1871 the work of the poor-law pharmacist has become more responsible and arduous, and the knowledge required for the proper performance of the duties [has become] more technical and varied, especially as some of our infirmaries are now great general hospitals, with specialists attending and medical students walking the wards.[25]

But hospital pharmacy remained an unattractive option to young pharmacists. John Lloyd began work as a hospital pharmacist in the early 1920s in Manchester. He recalls that:

> Prior to the formation of the Guild few pharmacists deliberately chose the hospital service as a career. Apart from a few dedicated men it was largely the refuge of those who for one reason or another failed to make the grade in retail pharmacy, and they had few professional aspirations.[26]

But even in the 1920s hospital pharmacy was being practised very much as it had been for many years. Frank Newman recalls that:

> When I was first appointed [in 1921] to University College Hospital there were on the shelves bottles with gilt and black labels on them; bottles which I am sure had been on the shelves for over fifty years. The fact is that when I first went into pharmacy the things used had been used for 50 or more years and were in fact used for many years after.[27]

In addition to small scale dispensing hospital pharmacies often undertook more substantial manufacturing. Sometimes these manufacturing activities were not restricted to medicines. William Phillipson, working in a hospital pharmacy in Manchester in the early 1920s, recalls that:

> You were expected to assist the economy of the hospital, and it was appreciated if you made baking powder, whitening for theatre shoes, soda water and lemonade. In fact, I made horse balls, pig drenches and other medicines for the animals belonging to the hospital authorities. We had a special department turning out grosses of siphons for the Manchester Board of Guardians' hospitals, and later for the Corporation of Manchester's hospitals.[28]

The role of hospital pharmacists in minding the hospitals' money has always been present, whether explicit or not. Frank Newman recalls that at University College hospital in London in the 1920s

> It was quite common for me to be asked to do a check on the cost per prescription. If it exceeded sixpence a week there was an enquiry. A list of expensive drugs was displayed in the departments, and some things (for example potassium iodide mixture) were limited to three days supply. All sorts of things were on that list which nowadays nobody takes any notice of.[29]

No allowance was made for costs of containers, and outpatients were expected to provide their own container. Frank Newman recalls that

> In those days patients had medicines by the pint or quart, and we didn't mind what sort of bottle they had it in.

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They brought their own. We began to object to beer bottles or milk bottles, but we certainly did not mind giving them ointment in a cup with a broken handle.[30]

For inpatients economy was achieved by the use of large stock bottles which were returned to the pharmacy to be topped up as required. Frank Newman recalls that:

The bottles always had the prescription on the label. The bottles were returned from the ward for refill, but they were not allowed to be refilled unless the prescription came down. One thing that horrified me was a bench full of empty bottles which were being kept on one side until the chart turned up so that the bottles could be refilled. The department did not like to re-write labels.[31]

In the early decades of the century the pharmacy departments of many hospitals employed a single-handed pharmacist. The work was predominantly the dispensing of prescriptions written by doctors. Where the workload demanded additional help, such as in the larger voluntary hospitals, the tendency was to employ additional pharmacists rather than less qualified assistants. Frank Newman recalls that:

When I first went to University College Hospital there were three qualified pharmacists working in the department. In those days Sir Thomas Lewis did a tremendous lot of work with heart cases. Often in an afternoon he would see as many as 180 patients. All those patients lined up for medicine, and the department used to work very hard on outpatients.[32]

Passage of the Dangerous Drugs Act of 1920 through Parliament proved to be an important landmark for hospital pharmacy in Great Britain. For the first time the special needs of institutional rather than retail pharmacy were incorporated in legislation. Frederick Bullen, the chairman, reported to the Annual Meeting of the Public Pharmacists' Association in 1921 that:

The draft regulations made under the Dangerous Drugs Act 1920 have caused your Council to meet frequently and consider the effect of those as applied to institutional dispensing. When the draft regulations were publicly issued your Council considered them very carefully, and came to the conclusion that, if un-amended, the dispensing work at institutions would be seriously impeded, and that in some particulars they were quite unworkable.[33]

Meetings were arranged with both the Council of the Pharmaceutical Society and the British Medical Association, and the Public Pharmacists' Association itself drafted a set of regulations which it felt would prove workable at institutions, and submitted this to the Home Office. The outcome appears to have been satisfactory:

As a result of the combined representations of the various bodies interested, the final regulations were amended in important particulars, and your Council can claim to have established the principle that a set of special regulations was required for hospitals, etc, the conditions being materially different from retail practice.[34]

The voice of hospital pharmacy was being heard. The process of establishing a professional identity had been a gradual one extending over more than twenty years. In 1902 the words 'Poor Law' were dropped from the Association's title. In 1909 the word 'pharmacist' was inserted, and the title became 'The Public Pharmacists and Dispensers Association'. In 1916 the organisation stated that in future only persons whose names appeared on the register of chemists and druggists should be elected as members. In 1917 the word 'dispenser' was droppped and the title became 'The Public Pharmacists Association'.

Not surprisingly, membership of the Association declined during the First World War. But there was another reason for the low numbers. The Association had never been able to recruit members from the voluntary hospitals, especially from the London teaching hospitals, who tended to consider themselves superior to those in other institutions. As a result they formed a separate organisation in 1919, which was a pharmacy section of the Hospital Officers Association. But their aims were the same: 'to improve the conditions of the members', and 'to procure for them proper status and suitable pay'. The pharmacist, they believed, 'was on a level with the secretary, both educationally and socially'.[35]

Formation of the Guild of Public Pharmacists

In 1920 The Public Pharmacists Association agreed that it would co-operate with other organisations on matters of common interest. A combined meeting was held between itself, the pharmacy section of the Hospital Officers Association, and the London Group of The Association of Women Pharmacists. The inaugural meeting of the Guild of Public Pharmacists was held on 23 January 1923 at the headquarters of the Pharmaceutical Society of Great Britain. All pharmacists working in public institutions in Great Britain were now united in a single organisation.

The first two decades of the twentieth century were therefore a period of rapid transition for hospital pharmacy in Great Britain. In just over twenty years it had gone from a disparate collection of assorted practitioners with very different interests and aspirations, to a relatively unified group of individuals with shared ideals and expectations. Hospital pharmacists had prepared the foundations for its further development during the twentieth century.

Acknowledgment

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Review

APOTHEKER KALENDER 2001 (Calendar for Pharmacists)

By Prof. Wolfgang-Hagen Hein of Frankfurt and Dr Werner Dressendorfer of Bamberg. ISBN 3-7692-2782-4 (DAV); Obtainable from: Deutscher Apotheker Verlag, Buchhandlung, Postfach 101061, D-70009 Stuttgart, Germany; 68 DM. (No price in £ sterling or Euros).

The cover and the calendar for April 2001 show an allegory of pharmacy with Hygeia and two putti, one with apparatus for distillation and the other clutching a mortar somewhat uncomfortably between his bare legs. Of particular interest for us in Britain is the copperplate illustration for October which shows a detailed and dissected crocus to be found in the herbal of Elizabeth Blackwell which formed the basis of Christoph Jacob Trew's own herbal. The December page depicts Christ with His bleeding stigmata as a pharmacist in which He is dispensing for the spiritual ills of mankind. It is believed to have been painted for a Bavarian monastery in the later eighteenth century. The sketch for a pharmaceutical painting of a research laboratory for Sandoz AG in Basle by Niklaus Stoecklin (1896-1982) is used for July, but being in a near monochrome is not as attractive or exciting as that to be found for March 2000 in the previous calendar. Both pay homage to the work of the chemist, Arthur Stoll (1887-1971).

The curious illustration for August has a view of the Regensburg pharmacy of The Moor which was first written about in 1513. It was bought by Johann Wilhelm Weinmarnn (1683-1741) in the early eighteenth century. The perspective in the painting on parchment is so odd that if looked at hard for any length of time it produces slight vertigo! Nevertheless, when inspected in 1712 the pharmacy gained high praise.

An Augustinian monk is shown on the page allotted to June in a monastery which was once near Vienna and could be regarded as an early example of pharmaceutical and spiritual care, the one not being effective without the other. Enamelled square glass bottles from the Court Pharmacy in Detmold are the theme for November, whilst the cobalt blue faience oil of almond jar and the apothecary jar containing Hiera Picra will bring back memories to older pharmacists when 'hicky picky' pills were frequently requested (September). The glass bottles, faience jars and wooden drug boxes from the Lion Pharmacy in Offenbach will remind pharmacists of the days when even the humble 'shop round' was an attractive as well as useful object (May) One cannot but agree with the authors when referring to 1770 porcelain eye-baths (March), that 'These delightful little works of art must have been a pleasure to use. Anyone comparing them to the plain plexiglass eye cups available today must truly begin to wonder whether newer is necessarily better.'

The dispensary in the Deutsches Museum (February) again reminds of the beauty of yesteryear's pharmacy, although medically speaking we would not care to go back to those days or earlier. The picture for January shows a patient (in bed and wearing a night cap), a physician (examining a lop-sided flask of urine) and a pharmacist in his dispensary. The picture is taken from a rare coloured wood-cut to be found in a 1482 edition of Bartholomaeus Anglicus's (Bartholomew the Englishman's) popular encyclopaedia first written in about 1240, based on Salernitan medicine.

The English translation is excellent as usual, with only two or three very minor spelling errors.

J. Burnby

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Museum of the Royal Pharmaceutical Society Postcards

Opposite: Early 18th century London 'delftware@ tin glazed earthenware 'wet' drug jar: *Meconium.*

Below: *The Colic* - by Capt Frederick Marryat, engraved by George Cruickshank, published in 1819.

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Spaniard Lousing printed by W.Davison, Alnwick. *From the collection of Prof. Peter Isaac*

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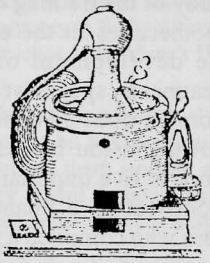

Contents

Diary

Tues 25 September 2001

BSHP at the British Pharmaceutical Conference

History of Pharmacy session. At the Scottish Exhibition and Conference Centre, Glasgow. BPC is on 23-26 September 2001.

19-22 September 2001

35th Congress for the History of Pharmacy at Lucerne, Switzerland. Further details from SGGP, c/o Schweizerischer Apothekerverein, Stationsstrasse 12, 3097 Bern-Liebefeld, Switzerland. Tel. +4131 978 5858.

Thursday 15 November 2001

'A History of the Scottish Department' by Sidney Holloway. To be held at 36 York Place, Edinburgh to celebrate the Sesquicentenary of the Scottish Department of the Royal Pharmaceutical Society.

Wednesday 6 February 2002

At Lambeth. Speaker Dr Thomas Dormandy

Wednesday 13 March 2002

Foundation Lecture - Prof. Roy Church

Museum of the Royal Pharmaceutical Society Events 2001

The Museum is holding the following events and exhibitions during 2001. Further details are available from the Museum office, RPSGB, 1 Lambeth High Street, London SE1 7JN on 020 7735 9141 ext 354.

Healing Science: pharmacy past pharmacy future – an exhibition exploring how changing theories and knowledge of the human body have affected the use of medicinal drugs through a thousand years – open **all year**.

Guided tours of the Museum displays and the Royal Pharmaceutical Society's rooftop views over central London are available to members and the public all the year round. From **August to November** tours start at 2.30 p.m. on the last Thursday in each month; during the summer, from **15 May to 26 July** special tours start at 2.30 p.m. every Thursday. Bookings are not needed and a donation is welcomed.

Saturday 14 July 2001

Lambeth Pharmacy History Show – As part of the Vauxhall Festival, the Museum is opening from 12 to 5 p.m. for an afternoon of exhibitions, demonstrations and talks with special emphasis on plant-based medicines.

Sunday 23 September 2001

London Open House Weekend. Guided architectural tours of the Society's HQ building, 10a.m. to 5 p.m.

Postcards and greetings cards from the Museum

A new range of 24 postcards and 4 greetings cards is on sale on behalf of the Museum from the Library issue desk at 1 Lambeth High Street. All the cards show images or objects from the Museum's fine collections.

The new postcards depict a variety of historical and pharmaceutical subjects. They include caricatures from the 18-19th century, images of pharmacists and pharmacies, cartoons and illustrations of pharmacy equipment and drug jars.

Review

Jesuits in Spanish-America as Transmitters of Medical Knowledge

(Jesuiten in Spanisch-Amerika als Übermittler von heilkundlichen Wissen) Sabine Anagnostou, 2000. Stuttgart: Wissenschaftliche Verlagsgesellschaft mbH Stuttgart, pp. 478; (ISBN 3-8047-1812-4), price not stated.

In the wake of the Spanish exploration of the South American mainland from the 15th-18th centuries onwards, several orders of Catholic missionaries worked amongst the indigenous peoples offering Christian and medical ministry.

Sabine Anagnostou discusses in detail this missionary role in Central and South America, the monastic orders, their missionary methods and especially the Jesuit order, and also considers the organisation and civilisation of the Mayan (Honduras), Incan (Andean) and Aztec (Mexican) cultures and the impact of the missionaries on these Indian societies. Explanation of the role of the Jesuit priest in the service of the indigenous sick also permitted

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study of the training of the monks as physicians and apothecaries in the ecclesiastical courses in Chile, the development of a system of remedies and treatments, specialist Jesuit drugs, the flow of drugs from Europe and monks as ethnobotanical reporters.

Anagnostou has carefully studied the lives and work of five important Jesuit priests: José de Acosta (1540-1600), a Spanish monk operating mainly in Peru who compiled a valuable work *Historia natural y moral de las Indias;* Bernabé Cobo (1580-1657), also a Spanish missionary in Peru and known for his fragmental work *Historia del Nuevo Mundo*; Ignaz Pfefferkorn (1725-date unknown), a German missionary who travelled in Mexico and compiled the 2-volume account *Beschreibung der Landschaft Sonora* (Description of the Province of Sonora) including his personal experience, rather than a scientific account, of the ethnology, ethnobiology and ethnopharmacology; Pedro Montenegro (1663-1728), a Spanish (Galicia) brother, who gained a knowledge of medical practice in Madrid and then worked in Paraguay, compiling a *Materia médica misionera,* including 136 diagrams of local drug plants drawn from his own herbarium; and Sigismund Aperger (1678-1772), a Tyrolean born in Innsbruck, who moved to the South American Mission in 1717 and to Cordoba in Argentina, where his life among thenative Indians helped his preparation of the compilation *Tratado breve de medicina de las enfermedades* which combined European and American pharmaceutical ideas.

This very useful book contains much information on the indigenous use of minerals such as sulphur, healing earth and vitriol (copper sulphate), vegetable sources such as maize, manioc (cassava), potato, tobacco, balsam, *Brugmansii, Bix orellana,* cinchona (Jesuit's bark), *Chenopodium ambrosioides,* coca, cochineal, cocoa, curare, jalap, mescal, nasturtium and thornapple, and animal products including amber, bezoar and faeces.

Careful indexes of 20 illustrations, 16 short reference titles for books mentioned in footnotes, some 64 primary and 264 secondary references, a comprehensive listing of the drugs and synonyms and registers of subject headings, persons' names and cited authors' names complete a valuable contribution to our knowledge of American indigenous medicine.

W.E.Court

'Admitting ... a Dozen Women into the Society': The First Women Members of the British Pharmaceutical Society

Dr Ellen Jordan

The Pharmaceutical Society of Great Britain was a relative late-comer to the group of professional associations which, in nineteenth century England, were given the legal power to regulate the practice of their craft. Yet it was the first to extend full membership to women. In 1872, when Edinburgh University closed its examinations to female medical students, the Pharmaceutical Society opened its lectures to women, and it admitted them to full membership in 1879 when the year before the British Medical Association had voted not to admit qualified women doctors. Before the 1990s, however, no mention of the Society's pioneering role was made in any of the texts cataloguing the expansion of women's employment or the achievements of the nineteenth century Women's Movement.[1]

In 1991 S.W.F. Holloway's *The Royal Pharmaceutical Society of Great Britain 1841-1991* began to make good this omission. But though Holloway described the efforts made by radical members of the Council, in particular Robert Hampson, to put the case for women, he gave no information on the background and motivation of the women who sat for the Pharmaceutical Society examinations and then pressured the Council to admit them to the privileges these gained for men. In a paper published in *Women's History Review*,[2] I suggested that these women were hospital dispensers who had received their training through the good offices of a group which formed part of the Women's Movement, the Society for Promoting the Employment of Women.

At the time that paper was written I, and all the archivists I consulted, believed that the papers of this organisation had vanished, and so the argument for its involvement was based on snippets of news in the Women's Movement journal, the *Englishwoman's Review.* In 1997, however, it emerged that the Society still existed, having changed its name in the 1920s to the Society for Promoting the Training of Women, and that Minute Books and Annual Reports dating back to the 1860s were still in existence. These were presented to the archive of Girton College, Cambridge, and have since been listed, boxed, and made available for scholars. Among much else that is fascinating, they make it possible to trace the part played by the Women's Movement in encouraging young women to enter the field of Pharmacy. This paper is devoted to using this new evidence, together with data recently collected from other sources, to provide a fuller picture of the first qualified women pharmacists.

The Society for Promoting the Employment of Women

The Society for Promoting the Employment of Women was part of the effort being made by the emerging Women's Movement to improve the employment prospects of young women. It was founded in 1859 by Jessie Boucherett (1825-1905), one of the daughters of a Lincolnshire landed family. She gathered together a set of influential supporters, and in October of that year was affiliated with the prestigious National Association for the Promotion of Social Science. The Earl of Shaftesbury became its first President, holding this office and presiding at the Annual Meetings until his death,

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while a number of aristocrats, MPs and philanthropists agreed to serve on its Committee, though after the first couple of years meetings were attended primarily by a smaller, largely female group, though even this included a number of titled women and wives of MPs.[3]

In January 1860 a Committee meeting approved the following statement of the Society's aims:

> The object of this Society which has been sanctioned by the Council of the National Association for the Promotion of Social Science, is to promote the employment of women in occupations suitable for their sex, by collecting and diffusing useful information on the subject, by establishing an office which shall be a centre for inquiry, by practically ascertaining the capacity of women for some of the occupations hitherto closed to them, and by encouraging their better and more complete education.[4]

This became, increasingly, the way in which the Society sought to open new occupations to women. An article in the *Englishwoman's Review* (a paper founded in 1866 and funded by Jessie Boucherett[5]) noted:

> It has hitherto been the general, though not the invariable experience of the Society, that when a few young women have entered a trade, and are seen to be doing well, the difficulties in the way of the admission of others are removed or greatly diminished. The first few girls who are apprenticed to a trade may be regarded as pioneers; if the experiment succeeds, others readily follow without subjecting the Society to any expense.[6]

In the late 1860s, because of developments in another branch of the Women's Movement, hospital dispensing became one of the occupations to which the Society directed young women. In 1865 one young woman, Elizabeth Garrett, later Anderson (1836-1917), having studied the requisite subjects privately, passed the examination held by the Society of Apothecaries and became a qualified medical practitioner. By 1866 she had opened St Mary's Dispensary for Women and Children in the Marylebone area of London, and set up house nearby with her friend Jane Crowe, who though no longer Secretary of the SPEW, was still an active Committee member.[7] Her dispensary then became the site where the process of opening hospital dispensing to women began, though the women suggested for this occupation were rather different from those who were attempting in a variety of ways to follow Elizabeth Garrett into medicine. The women aiming for medicine came from comfortable families who could afford to support them whether or not they achieved their ambitions. The women entering dispensing had applied to the Society for Promoting the Employment of Women because they needed to earn their own livings and hoped to do it in an occupation less crowded than teaching or dressmaking.

In 1867, 1868 and 1869 the Annual Reports of the Society recorded this development. The 1869 Report noted under the heading 'Dispensing':

> In the Report for last year it was stated that one young woman, who had received a regular course of instruction at St Mary's Dispensary, in Seymour Place, W., had been appointed dispenser to that institution; she still retains her situation, and does her work well. A second has lately been appointed dispenser to a dispensary in Bethnal Green, and a third is now receiving instruction at St Mary's Dispensary.
>
> The Committee have reason to believe that both analytical chemistry and dispensing might be advantageously studied by women, and might afford them suitable and remunerative employment. There is still a strong prejudice against women dispensers, but experience has proved that they are able to do the work.

Two of these women were almost certainly Louisa Stammwitz and Rose Minshull, women who were to play an important part in the admission of women to the Pharmaceutical Society, and the third may well have been Rose Minshull's sister, since in 1872 the Annual Report of the Society listed donations of 10s each from Miss Minshull and Miss Rose Minshull. The Report of 1873 recorded similar donations from the Minshull sisters and one for 5s from Louisa Stammwitz, while Rose Minshull and Louisa Stammwitz continued these donations for a number of years. The donations seem particularly generous, given that the salary paid by Elizabeth Garrett was only £40 a year.[8]

According to the census enumerator's books for 1881, Rose Minshull was about 20 when she began her training as a dispenser. Her father is recorded as a bristle merchant who by 1881 was a widower and retired. Another sister, Flora E. Minshull, one year younger, is listed in 1881 as a dispenser, and this may be the Miss Minshull who contributed to the Society for Promoting the Employment of Women. On the other hand there may, as the lack of a Christian name in the Report suggests, have been an elder sister, who subsequently married or died. A Flora Emma Minshull is recorded as sitting for the Apothecaries' Assistant's examination in 1899, no doubt because of increasing public pressure for hospital dispensers to hold some qualification. I have been unable to find any information about Louisa Stammwitz in the census records.[9]

Women and the Pharmaceutical Society

When these women began their training there was no state-recognised body controlling entry into the profession, and the kind of training offered by Elizabeth Garrett was the usual means of entry into both pharmacy and hospital dispensing. In the same year that Elizabeth Garrett took on her second pupil, however, Parliament passed an Act which established that all those selling poisonous substances to the general public must be registered, and that in future registration would depend on passing examinations.

The 1868 Pharmacy Act handed over to the Pharmaceutical Society the task of nominating which substances should be defined as poisons, administering the examinations, and maintaining the Register. The Society had been founded in 1841 and already conducted a series of examinations, and these now gained official recognition. Passing the Society's Preliminary Examination attested fitness to undertake the course of study, while those passing the Minor Examination were

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to be placed on a Register of Chemists and Druggists, who could open shops selling regulated substances or act as assistants in such shops. Those passing the Major Examination were placed on a more exclusive Register of Pharmaceutical Chemists and were entitled to apply for full membership of the Pharmaceutical Society.[10]

The 1868 Pharmacy Act made provision that 'all Persons who at any Time before the passing of this Act have carried on in *Great Britain* the Business of a Chemist and Druggist, in the keeping of open Shop for the compounding of the prescriptions of duly qualified Medical Practitioners ... may be duly registered under this Act'. It had long been customary for the widows of chemists, like the widows of other tradesmen, to continue a husband's business after his death, and so when the Register of Chemists and Druggists was established in 1869, almost 2% of those listed were women: 215 out of 11,638. Furthermore, the Act provided that assistants who had been 'actually engaged and employed in the dispensing and compounding of Prescriptions' for not less than three years could be placed on the Register if they passed a 'modified Examination'. In 1869 two provincial female chemists' assistants (from Leicester and Carlisle) presented themselves for the modified examination and the Society's lawyer advised that the Act, presumably because of the injunction that examiners were 'empowered and required to examine all such Persons as shall tender themselves for Examination under the Provisions of this Act', committed them to letting women take the examinations. When these women passed, their names were placed on the Register.[11]

This particular development does not seem to have been foreseen by the leadership of the Pharmaceutical Society. The leading members regarded the practice of female relations taking over a business as a relic of the past which would vanish in the face of examinations, just as had in fact happened in other professionalising areas, for example surgeons and solicitors. When in 1862, before the passing of the Act, Elizabeth Garrett had applied to attend its lectures as part of her preparation for the examination of the Society of Apothecaries, the Council of the Society had passed a resolution excluding women from them, and when one of the women on the Register, Elizabeth Leech, applied for membership of the Society in 1870, the Council took advantage of the fact that the Act did no more than declare those on the Register 'eligible to be elected' members of the Society and refused. In this their practice was very much in line with that of the medical societies when faced with women trying to claim equal privileges with men. For example the Society of Apothecaries, having, on the advice of its lawyers, felt bound to allow Elizabeth Garrett to take its examinations in 1865, in 1868 changed its regulations to exclude all those who studied privately, relying on the teaching institutions to exclude women, when others seemed likely to follow her lead.[12]

In pharmacy, however, the Society had not reached the stage of supervising and accrediting training schools, and so the path for women to take its examinations was still open. Furthermore, as S.W.F. Holloway has noted, by 1872 the Council contained a number of radical members who were inclined to extend, rather than restrict, the participation of women. The prime mover here was a chemist from Manchester, Robert Hampson (1833-1905), who passed the Major examination in 1864. In the 1860s he was a prominent member of the rival United Chemists and Druggists Society, but after the passing of the Act which excluded this body from control of the profession, he turned his notable energy to promoting a radical line within the Pharmaceutical Society. He was elected to the Council in May, 1872 after a vigorous campaign and by October had made it clear that one of his crusades would be the question of women's rights within the Society.[13]

Robert Hampson and the pioneer women

Knowledge of this change in the composition of the Council seems to have reached Women's Movement members very rapidly, and by January 1873 four women had made it clear that they were interested in becoming qualified chemists. The first two to present themselves did not come from the Society for Promoting the Employment of Women, but from the group of women who had set out to follow in Elizabeth Garrett's footsteps, and found themselves blocked by the change in the Society of Apothecaries' regulations. Although the Society of Apothecaries could now exclude women from its licentiate examination, it believed itself still bound to admit them to its preliminary examination, the Examination in Arts, for which no formal medical instruction was required, and between 1868 and 1872 at least six women presented themselves for this examination. Two of the women who took the examination in 1872, Alice Vickery and Alice Hart (née Rowland), then had their certificates approved by the Pharmaceutical Society 'in lieu of' the Preliminary Examination.[14]

Alice Vickery (1846-1929) was the daughter of a successful piano manufacturer and began her adult education as a pupil-teacher at one of the radical, secularist William Ellis Endowed Schools. In 1869 she and her married sister enrolled at the Ladies' Medical College, a small private venture founded in 1864 to give obstetric training, where she met and formed a lifelong relationship with one of the lecturers Charles Drysdale.[15]

Alice Rowland appears in the 1871 census as aged 23 and one of three sisters living with an unmarried aunt in Westbourne Grove in London and was still living there in April 1872 when she passed the Society of Apothecaries' Examination in Arts, three months after Alice Vickery. Another woman, Ella Lawson, aged about thirty, sat for the exam on the same date, and a census search has revealed that she was living in lodgings in Harley Street where Alice Rowland's future husband, Ernest Hart, a surgeon aged thirty-two, was a fellow lodger. Ernest Hart was already a prominent figure in medical politics and governance. As early as

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1870 he was editing the journal of the British Medical Association, and serving on the Fergusson Committee set up by the medical profession to investigate the state of hospitals.[16] The couple had apparently married by November 1872 when Alice Hart was given credit for the Examination in Arts by the Pharmaceutical Society.

The second two women to approach the Pharmaceutical Society were those who had entered dispensing under the aegis of the Society for Promoting the Employment of Women, Rose Minshull and Louisa Stammwitz. They sat for and passed the Pharmaceutical Society's Preliminary Examination, which tested knowledge of Latin, the metric system and arithmetic, in January 1873, with Rose Minshull heading the list of 166 candidates.[17]

Robert Hampson's interest in and support for female students was made clear even before Alice Vickery's application was approved. On 2 October 1872 he proposed to Council that the lectures and laboratories of the Society should be opened to women. His address to the Council on the issue, reported in the *Pharmaceutical Journal and Transactions*, revealed the broad commitment to liberal and progressive principles on which his support for women was based:

> In 1862 perhaps the admission of lady students to the classes and laboratory might appear a step fraught with great danger, and tending to revolution; but in the present day, in remembrance of the social and educational changes that had taken place, he could not for a moment assume that the present Council, elected on a much broader basis, would endorse the decision of the predecessors, which was, in fact, most arbitrary, unjust and impolitic. The doors were closed against lady students during the attendance of Miss Garrett, but he understood that the professors, who were well able to form an opinion on this question, uttered no cry of complaint or alarm, and that the presence of the lady, who since then had risen to a more distinguished position, produced no inconvenience whatever, but on the contrary, had a salutary influence on the order and decorum observed by the classes. By the Pharmacy Act, 1868, ladies were admitted to the examination, and were legally qualified to practice pharmacy; and two ladies had already passed the Modified examination with considerable credit. The introduction of the word 'person' in the act of Parliament showed clearly to his mind that the framers of the Act did not intend to shut out lady students, and therefore it was manifestly an arbitrary proceeding and diametrically opposed to the spirit of the Act of Parliament to exclude any person of respectability on account of sex from the instruction necessary to pass the examination. No doubt it was difficult for some persons to leave the well-beaten groove of custom in this or in other matters; but unless there were some solid reasons for denying admission to lady students, he thought they were bound to afford them the same facilities as gentlemen. Since giving notice of the resolution, he had endeavoured to discover any such reasons but had failed to do so. As to the notion that it was dangerous and unwise to have a mixed instruction in any college, he thought that was unworthy of being discussed. Indeed he was in favour of mixed education from the earliest age continuing through the whole process of national and scientific education. He admitted there was a feeling against female education in these kind of matters, but so there was against their writing books, and doing a variety of other things which they were now accustomed to do to the advantage of themselves and the community at large; and in these days of relentless competition he, for one, would not stand in the way of opening out any path by which a woman might obtain an honest livelihood.

After considerable discussion Hampson agreed to restrict his motion to admission of women to the lectures only,[18] and this was passed unanimously.

Robert Hampson (1833-1905), courtesy RPSGB Museum

Efforts were made to keep supporters of the Women's Movement informed of events. In January, 1873, the 'Events of the Quarter' in the *Englishwoman's Review* gave a substantial account, taken from the *British Medical Journal*, of the October debate on opening the lectures and laboratories to women and on January 30th 1873 Jessie Boucherett arranged for a letter from Alice Hart outlining the situation to be read to the Committee of the Society for Promoting the Employment of Women.[19]

This development was also noted by the members of the Pharmaceutical Society. From the first report of Hampson's first motion, the place of women in Pharmacy was debated in the editorials and letter columns of the *Pharmaceutical Journal and Transactions* and was monitored and commented on by the medical press, with the *Chemist and Druggist* joining in early in 1873. Most of the correspondents focussed their attention on women's fitness or unfitness to be chemists. Many of them revealed what has come to be recognised as one of the primary male objections to women entering a previously male profession: the threat

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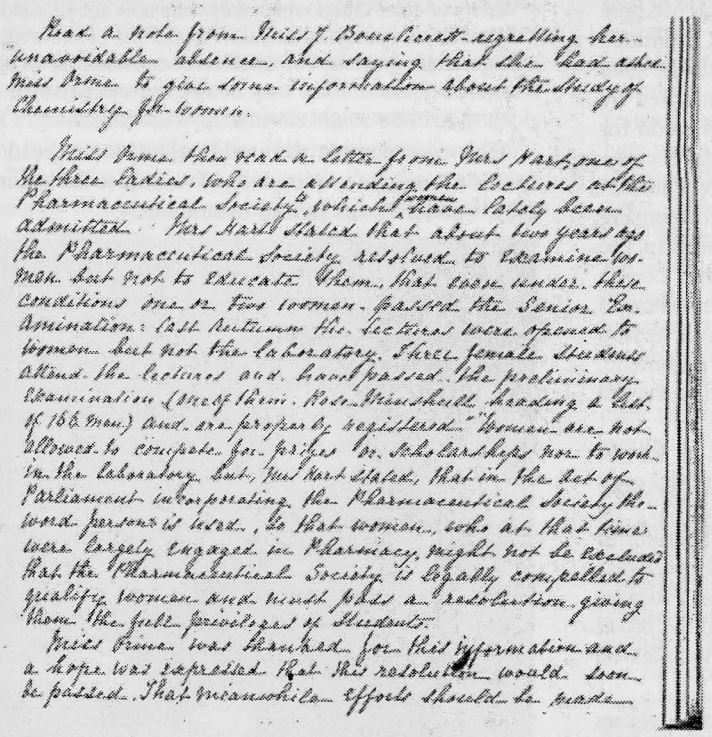

Read a note from Miss J. Bouchcourt regretting her unavoidable absence, and saying that she had asked Miss Orme to give some information about the study of Chemistry for women.

Miss Orme then read a letter from Miss Hart, one of the three ladies, who are attending the Lectures at the Pharmaceutical Society, which had been lately been admitted. Miss Hart stated that about two years ago the Pharmaceutical Society resolved to examine women. But not to educate them, that some months ago conditions one or two women passed the Senior Examination: last Autumn the Lectures were opened to women but not the Laboratory. Three female students attend the Lectures and have passed the preliminary Examination (one of them Miss Minshull) heading a list of 186 men) and are preparing by registered. Women are not allowed to compete for prizes or Scholarships nor to work in the Laboratory. But Miss Hart stated, that in the Act of Parliament incorporating the Pharmaceutical Society the word person is used, so that women, who at that time were largely engaged in Pharmacy, might not be excluded that the Pharmaceutical Society is legally compelled to qualify women and must pass a resolution giving them the full privileges of Students.

Miss Orme was thanked for this information and a hope was expressed that this resolution would soon be passed. That meanwhile efforts should be made

From the entry for Wednesday 30 January 1873 from the Minute Books of the Society for Promoting the Employment of Women.
(Archives of Girton College, Cambridge)

this posed to their conception of their own masculinity.

One letter writer, claiming to speak for the 'thousands of assistants' who 'see themselves confronted with the vision of female competition, and its inevitable pecuniary results' argued that the entry of women into their profession would diminish their feeling of 'pride and reposed confidence in their work' and reduce them to being like clerks and working solely for money. Others laid great stress, often in jocular fashion, on how heavy, dirty, dangerous and disgusting, and therefore how inappropriate for women, how quintessentially male, pharmacy was. One correspondent, for example, wrote of 'the common occurrence of prescriptions and remedies dealing with maladies of the most revolting nature' and the necessity to become familiar 'with subjects which possess the power to appal and disgust the sternest members of the sterner sex'.[20] Even those who took the side of the women could display some of the same prejudices. 'M.P.S.' writing to the *Chemist and Druggist* in April 1873, commented:

> The ungallant, if not unjust, conduct of some of our brethren is not justified by the circumstances—for the very few ladies that will ever have the qualifications and necessary moral courage to undergo the ordeal of *two* or *three* examinations, where fifty per cent. are plucked, is never likely to be formidable, or to supersede the efficient male assistants. They may, however, be valuable as dispensers in some public charitable institutions, and infinitely better than the errand boy and groom sometimes employed in private surgeries.[21]

Robert Hampson and his Women's Movement allies were not, their future actions suggest, simply organising credentials for female dispensers, but were planning a campaign which, by having women admitted to full membership of one of the professions, would advance the Women's Movement's project of achieving gender equity. In December 1872 Elizabeth Garrett (now Mrs Garrett Anderson) wrote to Council saying that there seemed some doubt as to whether the women attending the lectures would be eligible for the prizes and Robert Hampson raised the matter in a Council meeting. In January 1873, an even more significant move was made: the names of Rose Minshull, Louisa Stammwitz and Alice M. Hart, appeared on the list of those applying to be appointed apprentices and students of the Society.[22]

Although the Council was too divided in its views to make any concerted effort to devise a strategy for excluding women from the examinations, a majority of members, both on the Council and in the wider Society, took a firm stand against extending any other privileges to them. It soon became clear that though they had accepted that women must be allowed to sit for the examinations and appear on the Register, their right to actual membership of the Society, and thus a part in the governance of the profession, was to be hotly resisted. It was usual for the list of all those who had applied to become apprentices and students to be presented to Council and accepted without discussion. At the Council meeting in February 1873, however, G. Webb Sandford, a former president of the society and still a member of the Council, demanded that rather than all those on the list being accepted together, the three women candidates should be discussed separately.

His argument was that 'the Society was founded by men and for men, and this was altogether an innovation'.[23] George Schacht, another of the members identified by Holloway as radical, took issue with him on this point arguing that Sandford was wrong to assume that the Society was of a private nature and had a perfect right to regulate its own affairs according to the wishes, or even the whims of its members.
He argued that, on the contrary, since the passing of the last Act they were a society which had imperial powers, and if it were of advantage, as it was generally considered, to be a member of the Society, it was

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certainly putting such persons under a disability if they were refused the privilege.[24]

The issue that was to remain in dispute for the next six years (and set up terms of debate very different from those which had, in the Society of Apothecaries, led to the exclusion of women from its examinations), whether women were to be admitted to the Pharmaceutical Society as well as occupation of pharmacy, had emerged.

After a heated debate the Council decided to adjourn the question until after the Annual Meeting of the full Society and the election of a new Council in May. Hampson thereupon decided to test the attitude of the wider membership by proposing the admission of women to the assembled Society, and the debate over women became the great set piece at the Annual Meeting in May 1873. Here it became clear very early that Hampson's motion was unlikely to pass. As the *Chemist and Druggist* noted: 'The cheers which greeted the mover and seconder of this motion were so feeble, that its doom was evident even at this stage of the discussion.' On the other hand Sandford, 'the acknowledged champion of the existing order, and this time in accord with the sentiments of the majority, was received with tumultuous cheering'. An amendment was quickly moved 'That the question of admitting ladies as members, associates, apprentices, or students be adjourned *sine die*', and when it was put, the *Chemist and Druggist* reported, 'the hands held up for the amendment were probably three times as many as those who opposed it, and the few enthusiasts who called for a division were forgotten amid the triumphant cheers which greeted the result'.[25]

The goal achieved

The issue of women's rights and privileges did not come up before the assembled members for another five years, but a small group of women nevertheless continued to prepare themselves for the examinations. In June 1873 Alice Vickery became the first woman to pass the Minor Examination, an examination which allowed her to have her name placed on the Register of Chemists and Druggists, and would, if she had been a man, have entitled her to become an associate member of the Society. But for her,[26] and for Alice Hart, pharmacy was not the primary aim, and their connection with the Pharmaceutical Society simply filled the time gap between the collapse in 1872 of one attempt to set up a medical school for women, the Ladies' Medical College, and the founding of the ultimately successful London School of Medicine for Women in 1874.

Alice Vickery was one of the first to enrol in this new School when it opened in 1874, though she also undertook some medical studies in France, and became qualified as a medical practitioner in 1880. She made use of her qualifications not just to practice her profession but to promote the political causes she supported. She and her partner, Drysdale, were strong admirers and supporters of the secularist and Malthusian MP, Charles Bradlaugh, and became major figures in the birth control movement.[27] Alice Hart abandoned her connection with the Pharmaceutical Society without passing any of its examinations, and also turned to the London School of Medicine for Women, of which her surgeon husband was a founding member and to which he made substantial donations. She gained certificates in Botany and Physiology in 1875, but by 1881 seems to have given up all professional aspirations, appearing in the census simply as 'surgeon's wife'.[28]

Rose Minshull and Louisa Stammwitz, however, continued to prepare for their examinations, attending the lectures given by the Pharmaceutical Society, and getting experience in laboratory work at a private institution in Kennington, the South London School of Pharmacy, run by a Dr Muter, which had according to its advertisements an up-to-the-minute laboratory and other teaching facilities. (It was, however, not cheap, the fees for one year being £15 in 1881.)[29] Furthermore, in 1874 a new and determined woman, Isabella Clarke (1843-1926), whose sights were firmly set on practising as a pharmacist, appeared on the scene and sat for the preliminary examination on 13 April 1874. Her obituary, published in the *Chemist and Druggist* in 1926, stated that her father was 'a London solicitor'. By 1881, however, he was dead and she was recorded in the census as living at 14 Sevington Street, Paddington, with her widowed mother, two younger sisters whose occupations are given as 'dispenser' and 'artist, painting', and two servants.[30]

She seems to have been a competent and dedicated student. In April 1875 she passed the Minor examination, being placed fourth out of thirty-nine candidates (sixteen of whom failed), and in December of the same year passed the Major Examination which entitled her to call herself a Pharmaceutical Chemist and ought to have opened full membership of the Society to her, on this occasion being placed third. It is not clear how she came to enter the fray at just this point (she did not apparently do it through the SPEW) nor where she obtained the three years' experience that was a prerequisite for registration, though she seems to have gained some of her practical experience at Elizabeth Garrett Anderson's dispensary and in Robert Hampson's shop in St John Street Road. By April 1876 she had opened her own shop at 18 Spring Street, Paddington, which became the place where the women training at the newly founded London School of Medicine for Women studied dispensing, and where she also took female apprentices.[31]

Rose Minshull and Louisa Stammwitz followed the same course more slowly. In October 1877 both passed the Minor Examination, and in December 1878 Louisa Stammwitz passed the Major while Rose Minshull, who was prevented from sitting in 1878 by the death of her mother, followed in February 1879. Their successes were recorded in the Minutes of the Committee of the Society for Promoting the Employment of Women for 10 January 1879, and the *Englishwoman's Review* reported that when Louisa Stammwitz went up to get her certificate she 'was greeted, going and coming, by deafening cheers by the other students'.[32]

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Some of the First Dozen

Throughout this period, however, the Council refused to admit these women to any of the privileges of the Society that similar examination successes would have gained for men. In January 1876 Isabella Clarke applied for full membership with the other successful candidates, but was refused by the Council, most members arguing that they were bound by the 1873 decision of the Annual Meeting, even though two were now ready to concede women's right to membership, and when Louisa Stammwitz and Rose Minshull passed the Minor Examination in 1877 they were refused associate membership for the same reason. When, however, they had both passed the Major, Hampson brought up the question at the Annual Meetings of 1878 and 1879. His motion was defeated on both occasions but only by a narrow margin, suggesting that members who were not prepared to accept women's membership as an abstract principle had now changed their minds, and believed it would be 'illogical and unjust' to exclude anyone who had, as the 1873 correspondent quoted above put it, 'the moral courage to undergo the ordeal of *two* or *three* examinations, where fifty per cent are plucked'.[33]

In October 1879 the Council, once again faced with applications for membership from Isabella Clarke and Rose Minshull, accepted that views had changed. One member, who had until this point been a firm opponent, 'said he should vote for the motion, not with the view of conceding the ladies what Mr Hampson asserted was their right, but as a matter of courtesy, which he thought they had well earned by passing the examinations, and also with the view of bringing about a peaceful termination to a question which had formed a bone of contention for some years. A prolonged agitation would be infinitely worse than admitting even a dozen women into the society'.[34] In the following year Louisa Stammwitz was accepted as a member.

The next ten years

It took almost ten years for the 'dozen women' referred to in the Council meeting to present themselves, but by the end of the 1880s, fifteen women had passed regular

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pharmacy examinations. By 1889 five more women, Flora Mitten (1883), Annie Neve (1884), Matilda Sinclair (1885), Margaret Buchanan (1887), and Lucy Boole (1888), had passed the Major Examination, and five others, Anne Mills (1882), Elizabeth Hacon (1884), Catherine Smith (1886) from Glasgow, Mary Neve (1886), Annie Neve's elder sister, Jane Hart (1887), and Florence Brittain (1889) had passed the Minor.

One of these women, Jane Hart, was another protégée of the SPEW. The Minutes of the Society's Managing Committee for March 23, 1884 record:

> Miss Jane Hart daughter of a Pharmaceutical Chemist in Gloucestershire being anxious to pass the Pharmaceutical Examination applied for help to enable her to get practical instruction in certain preparations which were required for the Examination but with which she has had no experience in her father's business. Miss Hart is one of a large family her father is in very bad health & his business will be the only provision for the children in case of his death. This cannot be carried on unless she can be registered as a Pharmaceutical Chemist. She has passed the Cambridge Women's Examination & gained the Queens's Prize for Botany & last November she passed the Chemists preliminary. She is at present teaching at Dulwich but owing to a slight deafness she is not successful as a teacher & is working for a very small salary. Mrs Isabella Clark is willing to give her the instruction she needs during her holidays in August & September for £1 weekly which sum she is quite unable to pay for herself. Resolved that Mrs Clark's fees for instruction be paid for Jane Hart during a term not exceeding 8 weeks.

She passed the Minor examination in 1887 but did not remain in the occupation for long, her name ceasing to appear in the Register during the 1890s

A search of the 1881 census reveals more on the background of some of the others. Matilda Sinclair (aged thirty-two in 1881) was the wife of a chemist and druggist with a business in Llandudno. She was twenty-nine years younger than her husband and had three children under ten years. Her husband's thirty-five-year-old daughter was a member of the household. She gave no occupation, though she may already have been engaged in the practical work that qualified her for the Major Examination in 1885. She wrote in 1892: 'My own experience, looking back upon twenty years spent in connection with this pharmacy, during twelve of which years the full weight and responsibility of its conduct have rested upon myself, warrants me in offering encouragement to others and calls for much gratitude to a faithful God.'[35]

The Neve sisters were the daughters of a Hastings solicitor with at least three other daughters, and a brother or cousin who was a pharmacist employing two assistants in the same town. Elizabeth Hacon was the second of three daughters of a 'surgeon and general practitioner' in Hackney, where work in his dispensary could have provided her practical experience. Margaret Buchanan's father was a general practitioner living in Camden Rd and she had an invalid mother and two younger brothers. Her age was given as fifteen in 1881 and other sources suggest that she was at this time attending the famous North London Collegiate School whose headmistress, Frances Buss, was a member of the Committee of the SPEW.[36]

The numbers were kept low, the annual report of the Society for Promoting the Employment of Women pointed out in 1882, by the shortage of places where women could gain the three years' experience which was a prerequisite for sitting the Society's examinations. The places in Women's Movement sponsored dispensaries in London were already filled, and they did not find it practical to offer three-year apprenticeships to learners. Two of the women who qualified gained their experience in family businesses, Flora Mitten in her father's chemist shop in Hurstpierpoint, Sussex, and Matilda Sinclair in her husband's in Llandudno, and at least three others, Annie Neve, Lucy Boole and Margaret Buchanan, served apprenticeships in Isabella Clarke's London shop. She could however take only one or two apprentices at a time.[37]

Most of these women initially fulfilled the prophecy of the 1873 correspondent by working as 'dispensers in ... public charitable institutions', but although Rose Minshull worked as a dispenser all her life, remaining at the dispensary of the North Eastern Hospital for Children into the 1890s, the careers of the other pioneers were more varied. In 1888 Louisa Stammwitz and Annie Neve took a shop together in Paignton, but gave it up because of Louisa Stammwitz's ill-health. Annie Neve then for a time conducted a shop with her elder sister, Mary, in Eastbourne, and was still working as a dispenser at the Southwark Eye Hospital in 1926.[38] In 1883, 'after a long attachment dating back to student days', Isabella Clarke married Thomas Keer, who had trained with her at Muter's. She gave up her shop and together they ran a 'high class' pharmacy in Bruton Street. She continued to teach pharmacy at the London School of Medicine for Women, and established a hostel for its students. In 1905 she helped to found and became first president of the National Association of Women Pharmacists. She also owned a shorthand and typewriting business in Victoria Street, Westminster, and during World War I did clerical work at the Admiralty.[39]

Margaret Buchanan succeeded Isabella Clarke-Keer as the high-profile woman pharmacist. Her academic performance was outstanding, and she was, it was noted in 1892, 'the only lady student of the Society's School of Pharmacy who has taken double honours, certificates in class, and the silver medal of the Society given by the Council'. After a period as dispenser at the Westminster Hospital, she for a time operated a chemist shop in Clapham where she took female apprentices, before moving on to teaching pharmacy. In 1905, when she was lecturing at the

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London School of Medicine for Women, she began taking private pupils in a house she purchased in Gordon Square, and in 1910 established the Buchanan School of Pharmacy where women could study full time. She remained in charge until 1925 when it was taken over by Elsie Hooper and Katherine King who renamed it the Gordon Hall College of Pharmacy for Ladies. She was the moving spirit behind the founding of the National Association of Women Pharmacists, and followed Isabella Clarke-Keer as president. Thus in the early decades of the twentieth century she became the spokesperson for women in pharmacy, writing articles and letters on their behalf to the pharmaceutical press, and contributing articles on pharmacy to books on work for women.[40]

Lucy Boole, on the other hand, became the pioneer woman in a rather different branch of pharmacy. She worked for a time as an analytical chemist in the research laboratories of the Pharmaceutical Society and then built up a 'a fair analytical connection and practice'.[41] Florence Brittain had already established herself in hospital dispensing before she took the Pharmaceutical Society's examinations, having been placed in charge of the Dispensary at the Birmingham Hospital for Women in 1884. In 1892 she wrote that she had already trained twelve young women, and she seems to have played a significant part in establishing the much easier Apothecaries' Assistants' Licence as an alternative qualification for female hospital dispensers. She may perhaps also take credit for the fact that six women from Birmingham passed the Society's examinations in the 1890s.[42]

After 1890 the trickle of women into pharmacy gradually increased, and by 1900 thirty-seven more women had passed the Society's examinations, though only six had tackled the Major.[43]

Conclusion

These women differed from the two hundred odd who appeared on the Register after the passing of the 1868 Act, and who had mostly taken over a family business on the death of a husband or father. The qualified women more usually entered the profession when young and unmarried and had the intention of carving out careers for themselves rather than contributing to a family economy. They were thus pioneers of the new pattern of women's work being advocated by the Women's Movement. Even Matilda Sinclair, the wife of the Llandudno chemist and the woman in the group of pioneers whose situation was most similar to that of the pre-1868 members, had taken on board the belief that women could and should become independent professionals. She was quoted in the *Chemist and Druggist* in 1892 as writing:

> 'Aim high, and you will strike high' is a true and useful saying, and well would it be, when education is completed and life is before young women, that they should form a definite plan for its best development and thoughtfully *select some honourable calling* ... To a thoughtful woman's mind the possibility of qualifying herself for a useful and honourable position in life has a fascination which cannot well be put into words, and such a position is that of pharmacist.[44]

Thus, though the numbers of women inspired by the Society for Promoting the Employment of Women to enter pharmacy were initially small, nevertheless, because of the generosity with which the Pharmaceutical Society ultimately treated them, they fulfilled more completely than any other group the SPEW's aim of demonstrating 'the capacity of women for some of the occupations hitherto closed to them, ... by encouraging their better and more complete education'.

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11. Ref. 10, pp. 1003, 1004; Holloway, Ref. 10, pp. 261-262.

12. Ref. 10, p. 1009; Holloway, Ref. 10, p. 262; Manton, Ref. 7, pp. 116, 176. Miriam Benn has pointed out that this tactic was based on suggestions made in the medical press after Elizabeth Garrett's admission. She quotes the *Medical Times* of 23 February 1867: 'By insisting on the attendance of all students at the public-class delivery of anatomical lectures and in the public-class dissecting-room, the

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only possible guarantees of uniformity of teaching will be obtained, and at the same time a difficulty will be placed in the way of female intrusion ... We hope, however, that the court of examiners will not stop with the erection of the barrier we suggest, but that they will distinctly refuse to admit any female candidate to examination unless compelled by a legal decision from the Bench.' (Benn, J. Miriam. *The Predicaments of Love.* London: Pluto Press, 1992: 120).

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18. These lectures cost 4 guineas per year. (Hubbard, Louisa M. *Englishwoman's Year-Book for 1881.* Hatchards: London, 1875: 97.)
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23. Pharm J 1873 (Feb 8); 3 (3rd ser): 629-31.
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29. Hubbard, Ref. 18, p. 183.
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34. Pharm J 1879 (Oct 4); 10 (3rd ser): 265-267.
35. Lady-pharmacists. Chem Drugg 1892 (Jul 30); 41: 143.
36. Shellard, E.J. Typescript. Some outstanding women pharmacists of the late 19th century. London: Museum of Royal Pharmaceutical Society of Great Britain, 1996; SPEW Annual Reports.
37. Ref. 35. Lady-pharmacists. pp. 143-146. In her obituary tribute Annie Neve gave a charming picture of life as an apprentice in this household: 'Mrs Clarke-Keer was a member of a large family of happy, busy women. There were also brothers, but as they lived at a distance, I never met them. Many merry times we had in the back laboratory. Then, too, there was the liveliness in the shop when customers straight from Harley Street specialists' consulting-rooms, on their way to the train, and with only five or ten minutes to spare, rushed in with long prescriptions. Repeats of these created a very substantial postal connection. As the Clarkes were a musical family, there was regular frequentation of the high-class concerts at St. James's Hall and the Albert Hall, and the sisters and other relatives all made much of Bella's apprentice and took "little Arsenic" with them, here, there, and everywhere.' (Margaret Buchanan and Annie Neve. The late Mrs Clarke-Keer. Pharm J 1926 (Sept 18); 110 (4th ser): 375).
38. Buchanan and Neve, in Ref 37.
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42. Lady pharmacists, Ref. 35; London Guildhall Library, Ms 10,987; Jordan, Ellen. *The Women's Movement and Women's Employment in Nineteenth Century Britain, Gender and History.* London: Routledge, 1999: 177.
43. Even more women were qualifying themselves for dispensing through the Apothecaries' Assistants' Licence, 352 women having passed the examination by 1900 (London Guildhall Library, Ref. 42).
44. Lady pharmacists, Ref. 35, p. 143.

The Origins of the Chemist and Druggist

Dr J. Burnby

Some of us will have taken the examination which we knew as the Chemist and Druggist, but how many have wondered how this title came about ?

Leslie Matthews in his *History of Pharmacy in Britain,* when writing of clause 28 in the 1815 Act pointed out that nothing was to affect 'in any way the Trade or Business of a Chemist and Druggist, in the buying, preparing, compounding, dispensing, and vending of Drugs, Medicines and Medicinable Compounds, wholesale and retail'. It was thus recognised that the chemist and druggist had already established himself as a supplier of medicines. He then added 'the description is combined and NOT alternative' (p.113). This however had not always been the case.

Both Henry Brown of Derby and George Dawson of Hull, for example, described themselves as either apothecary, or as chemist & druggist when taking apprentices. Or there was John Ching (of worm powder fame) who sometimes called himself a druggist and, on other occasions, surgeon and apothecary. John Till Adams of Bristol was an apothecary until he 'bought himself a degree from Aberdeen whereupon he called himself Dr Till Adams, though he advertised his services as those of Surgeon, Pharmaceutist and Man-midwife.'[1]

Even members of the Society of Apothecaries of London were not at all exact in their descriptions. Charles Maxwell was a 'Citizen and Apothecary', as were Alexander Dalmahoy and Thomas Greenough, but all could call themselves 'Apothecary and Chemist' if the occasion demanded it, such as advertising on trade-cards.[2]

The records of the apprenticeship bindings show that the first recorded in the provinces as 'chemist & druggist' do not appear until 1771 with William Pearson of Sheffield and Samuel Moore of Exeter, whilst those in the London series give Edward Ruston

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of Birmingham, and two years later, Marmaduke Newby of St George's, Hanover Square, London. So it is obvious that the titles were fluid and not too meaningful. Nevertheless, as the eighteenth century progressed the title of 'chemist & druggist' became increasingly popular, until we were all urged to become 'pharmacists'.[3]

Records show, whether in advertisements or directories, that during the eighteenth century and earlier, the term 'druggist' was to be found in great numbers, and there were even a few 'grocers and druggists', but rather surprisingly not many.

So far as has been discovered to date, the first time the dual title of 'chemist & druggist'was used was in Bristol; it occurs on 19 September 1693 when John Nicholson was taking James Jennings as his apprentice. However, on the occasion of his marriage and so his entry as a burgess of Bristol, he was called a 'chimis'. Subsequently he was 'chemist, druggist & apothecary' when Henry Ockold (1699) and Edward Torrent (1701) became his apprentices, but 'druggist' when his son Francis was to be trained in 1707, and 'apothecary' when his other son, John, joined him in 1705.[4] After his death Hester, his 'widow and relict', took as her apprentice in December 1714 Edward Dunn of Wigmore, Herefordshire, and described herself as a 'druggist & kemist'.[5]

Twenty years later, Thomas Shilburn was advertising himself as a 'chemist & druggist' at 'Ye Golden Phoenix', Brewer Street, Golden Square, and ten years later still we find John Richardson announcing that he too was a 'chemist & druggist' at the Golden Key, near the Watch House in High Holborn.[6]

The question arises: when was the title of 'chemist' added to that of 'druggist'? For that, we have to go back to the introduction of iatrochemistry, that is chemicals used internally in medical practice, and even to the days of alchemy.

Chemical Medicines

When the Arabic writers were translated into Latin it gave a stimulus to a mediaeval form of chemistry. Men such as Albertus Magnus (1193-1280) and the Franciscan, Roger Bacon (c.1214-1298) extended the experimental method. Bacon was particularly interested in chemistry and he may be said to have anticipated Paracelsus. Other outstanding workers in this field were Arnold of Villanova in Montpellier, and Ramon Lull (c.1230-1315). To us the alchemists are almost figures of fun, but they have been described as the real experimentalists of the Middle Ages who developed a number of chemical techniques, such as distillation, crystallisation, solution and reduction. They could also make alcohol and mineral acids, and made use of the balance, though the real masters of this instrument were the assayers who had developed an empirical but fairly exact system of chemical analysis.

The interest which had been aroused led to a number of books on technology, for example that of Vannoccio Biringgucio, head of the Papal foundry, who in 1540 wrote *Pirotechnia,* which dealt with metal founding, mould-making and casting. Or there was Georg Agricola's *De Re Metallica* which described the minerals, mining and metallurgy of 1556. It seems that nearly every industry had its book, including Brunswych's important *A Small Book on Distillation* of 1500.

An influential book was *The Triumphant Chariot of Antimony*, supposedly written by a mediaeval monk, but in fact in 1604 by a salt-boiler from Thuringia called Johann Tholde. Alchemy became almost an esoteric religion developing a secret vocabulary with the intent of leading people astray. Paracelsus (1493-1541) saw himself not as an alchemist but as a medical reformer, even though his form of medical chemistry was nearly lost in his mysticism.

An important point made by Andreas Libavius (1540-1616) was that it was *not* necessary to be a Paracelsian to practise medical chemistry, and there is no doubt that iatrochemistry became influential and challenged the older medicines. By the end of the sixteenth century, and even earlier, chemical medicine had permeated all thoughts concerning medical treatment. Conrad Gesner (1516-65) wrote his book in 1551 with the intriguing title of *Euonymous ... Secret Remedies* in which he gave directions for the preparation and administration of medicines of chemical origin, and by 1597 Andreas Libavius had published his *Alchemia.*

In spite of all that conservative authority could do, chemical drugs were included in official and unofficial pharmacopoeias, and by 1600 patients were clamouring for antimonial wine and the new mercurials, the new mining techniques having produced an abundance of them on the market.

The flood of books continued. Oswald Croll (c.1560-1609), Professor of Medicine at Marburg, published *Basilica chymica* in 1609, which was much read by physicians and chemists alike. The first true textbook intended for non-experts was Jean Beguin's laboratory manual *Tyrocinium chymicum,* which followed a year later and was also much consulted. Both of these books were written in the first instance in Latin, but Beguin's was soon translated into French.

It was Joseph Duchesne (Latinised into Quercetanus) (c.1544-1609) who realised that the new chemical methods must be taught to students. He arrived in Paris in 1593 and was immediately successful.

Even more influential in the long run were the public lectures given in Paris at Le Jardin des Plantes, established in 1635. Here, William Davidson (c.1593-c.1669), a Scotsman, was appointed to a new chair. He taught for only two years but established the tradition of full-scale chemical lectures which were open and free to the public. John Evelyn, who was interested in iatrochemistry and had earlier been to a course of lectures, went to Davidson's lecture on 21 September 1649 and visited his laboratory.[7] Davidson resigned in 1650 to become iatrochemist to Jean Casimir, King of Poland.

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He was followed in 1652 by Nicolas Le Fevre, who had already run a number of courses in chemistry in Paris. He left France to come to England in 1660, on the invitation of Charles II to become Professor of Chemistry to the King, and stayed in this country until his death in 1669. His *Traicte de la Chymie* was published in Paris in 1660 after he left for England, and the English edition appeared in 1664.

In Paris, the next lecturer was Christopher Glaser, a native of Basel, who in 1663 published a fine treatise on laboratory preparations. He found it expedient to leave Paris in a hurry in 1671 because of what could have easily been construed as an involvement in the murder of Brinvilliers. His successor was Moise Charas (1619-98), a master apothecary at the Sign of the Golden Vipers, and he was followed by Nicolas Lemery.[8]

The battle for chemical remedies never really had to be fought with the authorities in England, unlike in France. In Britain there were many widely read and competent chemists among the physicians, men such as Thomas Willis (1621-75), Jonathan Goddard (1617-75) and the erstwhile friend of the apothecaries, Christopher Merret.

So, one may well ask, where were the apothecaries in these early developments? In fact there was a new type of apothecary, a member of the Society who was skilled in chemistry but, until the setting up of the laboratory at the Hall in 1672/3, is difficult to trace with exactitude.

In 1633 the Society of Apothecaries became much entangled in what came to be known as the Lac Sulphuris or Precipitated Sulphur Case. The main contenders were George Haughton, Samuel Harrison and Job Weale and there is no doubt that they were all makers of Precipitated Sulphur and so makers of a chemical medicine. There were two principal methods of production, that given by Oswald Croll, and that of Quercetanus. Even in modern times, Underwood tells us, the manufacture of Lac Sulphuris can cause problems, so not surprisingly the apothecaries of the seventeenth century were frequently in trouble.[9]

John Starky, at one time an apprentice of Job Weale, admitted that there were difficulties in manufacture, saying that '(it) requires about a Monethes tyme & the charg(e) and trouble about it is very great.' Nevertheless, Job Weale enjoyed making Lac Sulphuris, and probably other chemicals as well, for he showed the Censors of the College several sorts of sulphur which he made by various methods.

George Haughton was another in this category, a friend of Simon Horsington, chemist, who we read about in another connection.

John DelaBere (sic)

The study of chemistry, or at least of medicinal chemistry, was occurring in other places, for example in Oxford. A certain John DelaBere wrote to his nephew, Thomas Edmondes at Ely House, Holborn, on 23 March 1596/7:

> I am sorrie that you feele yo(u)r bodie so indysposed ... These Specifica medicamenta which were promysed to be p(re)pared for me by yo(u)r London Chymist, I could never obtayne! Wherefore wantinge them much & some other their lyke in my practice I am forced now to bylde a Laboratorie or Stylhowse of myne owne, and am at this present settinge upp of my furnasses, to worke them myselfe: whereby I shal be assured of there (sic) trew preparation. Yo(u) shall have the first frute of my poore Laboures for yo(u)r medicine.[10]

John DelaBere was not alone in the making of chemical medicines. George Baker, the grandson of the surgeon John Banister, writes in his *The Newe Jewel of Health* of 1576 that he knew of some fine exponents of chemistry. 'I do know of some most excellent chymists as one mayster Kemech, an Englishman dwelling in Lothburie, another, mayster Geffray a Frenchman dwelling in the Crouched friers, men of singular knowledge that waye, another named John Hester dwelling on Powles wharfe, the which is a paynful traveyler in those matters, as I by prooffe have seen, and used of their medicines to the furtherance of my Pacients healthe, and also Thomas Hyll, who for his excellent knowledge in this Art, is not to be left out ...'[11] One of the four, John Hester, issued a broadside advertising his preparations and offering to give instruction in chemical processes. Hester is usually regarded as a distiller, but he was far more than this. He collected together and translated 114 of Paracelsus' 'Cures' which were published in 1596 and dedicated to Walter Raleigh Esq. who was an enthusiastic iatrochemist.[12] From the list of preparations on Hester's advertisement, it can be seen why the proposed charter of the Distillers' Company caused the Society of Apothecaries so much distress, because nearly every one of Hester's preparations involved one or more distillations.[13]

The distillers of London tried to promote a Bill for their incorporation in 1621 but ran out of Parliamentary time. Nothing further was done for fourteen years but then Sir Thomas Mayerne and Dr (later Sir) Thomas Cadyman were granted the sole exercise of the distillation of strong waters and the making of vinegar. The Apothecaries believed that this could be construed as giving the Distillers' Company a monopoly of all compounded distilled waters, chemical oils, extracts, essences and even salts, as they were then the results of distilling to dryness. They resolved to challenge the Charter.[14] In the end the Distiller's Charter was not approved until October 1638, and even then the City authorities refused to enroll the new charter until 1658, or grant a livery until 1672.[15]

'Sandy' Napier

As has been remarked the iatrochemists were not confined to London. There was, for example, Richard Napier (1559-1634), Rector of Great Linford, Buckinghamshire for 44 years. He was a friend and pupil of Simon Forman (1552-1611) the astrologer, who bequeathed to him all his books and manuscripts.

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Napier was often visited by medical chemists, and some even asked to become his operator.

One of Napier's suppliers was Samuel Harrison who was to be accused in 1633 of selling bad Lac S.ulphuris by George Haughton. Napier referred to Harrison as 'my Apoth(ecar)y'. Sometimes Harrison visited him, on other occasions goods were sent by carrier.

Another supplier was William Horsington, 'Chymist of London dwelling in Beech Lane over agaynst my lady Lucys at the signe in Kings head court'. He came to see Napier on 5 February 1626/7 and sold him 12 apothecary ounces of 'oyle of sulphur once rectified'.[16] On 20 February 1628/9 at 10 o'clock in the morning he was visited by two men whom he called 'hungarian Germans'. One of them was studying 'Chymistry', and they had been communicating in Latin by post.[17] It is possible that one of them was Johannes Banfi Hanyardes, once chemical operator to Sir Kenelm Digby and friend of Arthur Dee, son of John Dee, Queen Elizabeth's astrologer.

The John Ward Diaries

Perhaps Oxford had a particular interest in iatrochemistry in the middle of the seventeenth century because this was the university attended by John Ward (c.1629-1681) and where he gained his B.A. in 1649. He soon became interested in iatrochemistry and has most fortunately bequeathed his diaries to us from his time in Oxford and London. In them he related the names of those involved in chemical studies, men such as 'Horsington in Cloke Lane, Lockyer in Southwark, Heath att ye Green Man in Canon Street ... Dr Storkey (sic) near St Thomas apostles.' He learnt much from their differing techniques, for example from Sampson who said that he put 'bath sand, powdered brick and other things of a like nature' into vessels 'to hinder too sudden rising ...' He gathered interesting pieces of information, such as that George Starkey (not John, although it would be interesting to find out if they were related) had studied for a while with 'Huniades, a German', and that Starkey had had a long correspondence with Glauber, 'a high German' who now lived in Amsterdam. Ward seems to have made a point of coming across everybody of note who had any interest in chemistry, and also in botany.[18]

The Society of Apothecaries

When the Society was first established in 1617, it seems to have made no attempt to check on the chemists of the period, their whole effort being expended on the grocers and the druggists. The druggists like John Sanders or a Mr Hill were not infrequently in trouble with the Apothecaries' Society in the 1630s and earlier. Thomas Mason, a grocer at Smithfield Barrs had his Oil of Mace seized, as did a Mr Stone and a Mr Edwards.

Their main target nevertheless was the druggists. However, after the Restoration relief was at hand for the druggists because on 18 December 1684 the druggists were transferred to the Grocers Company,[19] but it must be remembered that the jurisdiction of the Grocers only extended to a three-mile circumference from the City.

The 'chymists' in the Society seem to have left well alone, possibly because most were already members, men like Job Weale, and in any case they were relatively few in number compared with the druggists.

Advertisements

By the mid seventeenth century iatrochemistry was well established and advertisements began to appear. The first one for 'chymical' medicines is to be found in the newspaper *Mercurius Politicus* on 15-22 April 1658. These were obtainable in Bread Street at the Sign of the Bores (sic) Head and were described as the 'usual Medicines prepared by the Art of Pyrotechny (according to the Doctrines of Paracelsus and Helmont).' *The Intelligencer* in January 1663/4 advertised that it had 'Choice Chemicall Medicines', and in 1665 at the time of the Plague, recommended Spiritus Antilomoides which was sold by William Johnson, apothecary and chemist to the College of Physicians. On another occasion an 'Astrological Physician' proclaimed that he had 'Chymical Medicines' always in readiness.[20]

Despite the fact that chemical medicines had proved no more effective during the Plague than those of the Galenists, the interest in iatrochemistry continued.

George Wilson

An interesting man was George Wilson (1631-1711), a citizen and haberdasher of London, although in fact he was a chemist. He had a reputation for honesty and for some twenty years he had his furnaces at the sign of 'Trismegistus' in Watling Street, but was forced to move by an excited mob to the sign of 'Hermes Head' in Well Yard, West Smithfield. Wilson placed an advertisement in the *True News* of the 6-10 March 1679/80 number for his 'Elixir proprietatis' and 'Spirit of Scurvey-grass'. He claimed, probably quite correctly, that he was an expert 'Chymist' and was well known and approved by the College of Physicians, the battle for chemical medicines having long been won.[21]

He also wrote a textbook, *A Compleat Course of Chymistry*, printed in 1691, but of equal interest was his advertisement entitled, *Gaza Chymica: or a Storehouse of choice chymical medicines.* To this he added, 'Here I offer to your service the conveniency and use of my Laboratory, if any of you shall at any time desire it, there to have any particular Process of your own experimented, paying for the Coals and Glasses, and a Reasonable Recompense for the use of my Furnaces. And at all times a Free and Welcome access to see any of those Medicines you shall have of me, prepared from the beginning to the completing of the same.'

He supplied Aqua Mellis to James II, and made for sale Starkey's Pills and a popular Anti-Rheumatic Tincture. Unfortunately in December 1688 at the time of William III's landing, his connection with the Royal household became known and his laboratory

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was ransacked, causing him to move to Well Yard. [22]

No account of chemical medicines would be complete without reference to Ambrose Godfrey Hanckwitz (1660-1741), once Robert Boyle's assistant. Born in Germany at Nienberg, he came here as a young man and was naturalised in April 1700. In 1707 he took premises in what was later named Southampton Street on the Bedford Estate, where he developed his chemist's business and factory for pharmaceuticals. He became famous for his stick phosphorus whose manufacture he had learnt, quite openly, from Boyle's experiments, and exported to Europe.[23]

More or less a contemporary was Thomas Hammond at the 'Sign of the Blew Balls in Ave-Mary Lane, Leading from Lud-Gate to Pater Noster Row'. He believed in advertisement and put out handbills in 1685 which said he was 'practically conversant' as well as being a 'Studient in Chymical Pharmacy ... above ten years past.' He sold an 'Elixir proprietatis impregnated with the volatile salt of Hartshorn at 22s. the ounce, a Tincture of the Salt of Tartar (of a Rubicund Colour), a ponderous Acid Oyle of Vitriol made volatile and sweet, and the Queen of Hungary's Water' amongst other preparations.[24]

By this time the 'chymists' had begun to fight back at the overbearing attitude of the College of Physicians. Among a miscellaneous collection of papers in the British Library is one headed, 'A Plea for the Chymists or Non-Col(l)egiates' and dated 1683. It states 'that the most numerous men whom the College sue are Chymists, accusing them of malpractice, whereas all recent improvements are due to the industry of the chymists. When their letters patent were granted chymistry was unknown and their actions might be compared with Fletchers, Bowyers and Bow-string makers taking action against Guns and Gunsmiths.' The writer goes on to point out how much physicians use preparations such as Crocus metallorum, as 'witness divers of their receipts in their Dispensatory which have been taken from Paracelsus, Basilius, Quercetanus etc.'[25] As far as is known nothing came of this plea.

From the newspaper *The London Spy* No.3, dated January 1699, it seems that chemists' shops could be recognised as such, which confirms what George Urdang was later to suggest.

The Council of the City of London

The Society of Apothecaries was faced with another problem in 1712 when the Council of the City of London passed a law which meant that anybody could trade provided they belonged to a City company and any Company was acceptable. This left the door wide open for the increase of the chemists & druggists who were becoming their greatest rivals in pharmacy. As a result chemists & druggists are to be found in many City companies. Those which were particularly favoured were the Musicians, the Wheelwrights, the Tallow Chandlers and the Joiners. This makes it difficult to trace chemists & druggists, as few tell us as clearly as John Adcock does that he was a 'Citizen & Salter', but a druggist of Leadenhall Street by trade.

To some extent this was the Society of Apothecaries' own fault. On 12 October 1641, Edward Cooke, an influential and wealthy member of the Society, offered to expend £500 of his 'owne monies upon the Wast(e) ground by the Waterside for a laboratory.' The idea was rejected and it was not until 8 September 1671 that it was 'Ordered that the Laboratory bee erected & finished'.

The first operator, Samuel Stringer, the son of a 'doctor of Phisick' in Bristol, was elected on 29 January 1671/2. It was not long however before he found out that he had made a bad bargain, and resigned in March 1673. He was replaced in April by Samuel Hull who had already shown an interest in the post. Unfortunately he died less than two years later so that, as a temporary measure, Hull's assistant took over. A German, Nicholas Staphorst was appointed in 1676 and made a great success of the work for many years.

In spite of the Apothecaries' laboratory efforts, the anonymous writer of *The Present Ill State of Physick* wrote in 1702:

> As for the Chymists, who have assumed so great a share of the apothecary's art ... the apothecaries have been so intent upon practice [i.e. medical practice] that for many years they have wholly quitted chymistry which requires strict attendance ...'

Nevertheless the chemist & druggist was prepared to work hard, to advertise his presence, and to take apprentices.

Campbell in his book *The London Tradesman* published in 1747 speaks as though the 'chymist' and the druggist were two separate occupations. He writes of the druggist as being a 'mere Seller of Medicines' who

> requires no great Head Piece, but if he dips into Composition, as they generally do, he ought to have a genteel Education and understand Greek and Latin, though it were better to confine himself to the Sale of Drugs only, where his Want of Understanding can be of no Damage'

Whereas, of the 'chymists', he wrote:

> the Galenists are daily losing Ground and the Chymists increasing in Practice and Reputation, insomuch that they are a very necessary Branch in the Modern Practice of Physic. The genius requisite to compleat a Chymist has a near Analogy to the Physician. He must have a solid Judgment, but a larger Share of Patience than most Men, their Processes are long and tedious, and often depend upon very minute Circumstances, the smallest Neglect spoils their Work ...
>
> The Education of a Chymist ought to be liberal and unconfined. But above all he must be Master of Latin and perhaps would find his Time well bestowed in learning the German Tongue ... the best treatises on the Subject are either writ in Latin or High German. The Chymists are generally Apothecaries, that is as they

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make up their own Chymical Ingredients they are enabled to undersell the Apothecary, but in both Capacities are subject to the Visitations of the College of Physicians.[26]

We do not know exactly when the book was written, but without doubt he was a little late in the day, because the dual-titled chemists& druggists had already arrived on the scene. *The General Advertiser* could write in August 1752 of the death of Mr Mark Newland, 'formerly an eminent Chymist & druggist in Tower Street' who 'had upwards of ten years retired from business'. In the *Daily Advertiser* of May 6, 1743, a chymist & druggist wanted an apprentice, and on 3 June the creditors of Simon Pindar, 'late of the Borough of Southwark Chymist and Druggist, deceased', are required to pay their debts.[27]

Thus the gap between the great interest in iatrochemistry of the sixteenth and seventeenth centuries and the arrival of the chemists & druggists has been almost filled, and by a group of people of whom we know very little, the apothecaries & distillers, who were to become the apothecaries & 'chymists'. George Urdang has an interesting theory about these people. He wrote that the 'chymists' were officially recognised in 1553 in an Act of Mary I which said 'apothecaries, druggists, distillers and sellers of waters and oils, *and preparers of chemical medicines*' were subject to the surveillance of the College of Physicians. The preparers of chemical medicines had thus arrived on the English scene before the Society of Apothecaries. He suggests that these 'chymists' displayed a carboy (or show globe as it was called in America) in order to publicise themselves. At the same time it differentiated them from their rivals, the Galenists, who more often displayed a pestle and mortar. Urdang finds it particularly significant that only in the English-speaking world do we find the carboy displayed as a symbol of pharmacy.[28] Unhappily only in a few cases can this be said today: either it is an unexciting green cross or an unattractive fascia board.

In fact, as can be proved through the apprenticeship records, the apothecaries, in a manner of speaking were cutting their own throats. For example Mawley Bakewell, an apothecary in Birmingham, took William Taylor, son of a widow, as his apprentice in 1719, but when Taylor became a master in the 1740s, he always described his occupation as 'Druggist etc.' The same story can be told for Benjamin Wyatt who was bound to William Compton of Salisbury and an Apothecary in 1766; his apprentice never called himself anything but a druggist. It was a similar story with the Decks of Cambridge, their pharmacy being on King's Parade within recent years. Arthur Deck was bound in 1796 to a John Fox Priest of Broad Street, Norwich, a chemist & druggist who had been trained by his brother Robert Priest, once an apprentice of Charles Weston, an apothecary & chemist, the same description as that used of James Goodwin during his troubles with the College in 1724. It has been suggested that this phrase was one used some years earlier than that of 'chemist & druggist'.[29]

It would seem reasonable therefore for us to claim our descent, not from the apothecaries alone, but from those who were 'apothecaries & chymists', and substituting 'general Practitioner' for apothecary, I suspect that we are again about to do so, whether we wish it or not.

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28. See ref. 26, p.100.

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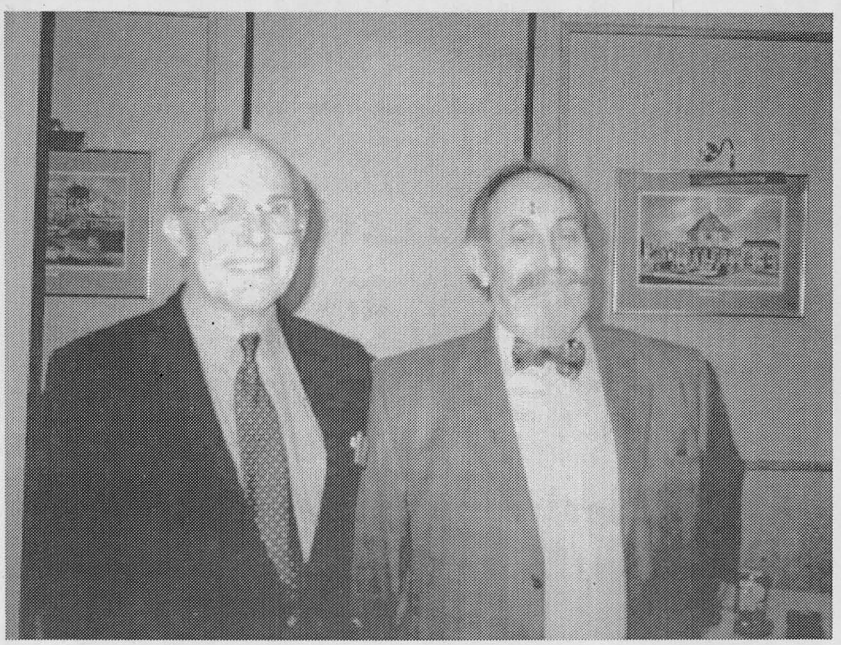

BSHP Conference 2001 at Norwich

Above: Mrs. Janie Newstead and BSHP President, Peter Worling
Below: Anthony Morson and Clive Murray, speakers at the Conference

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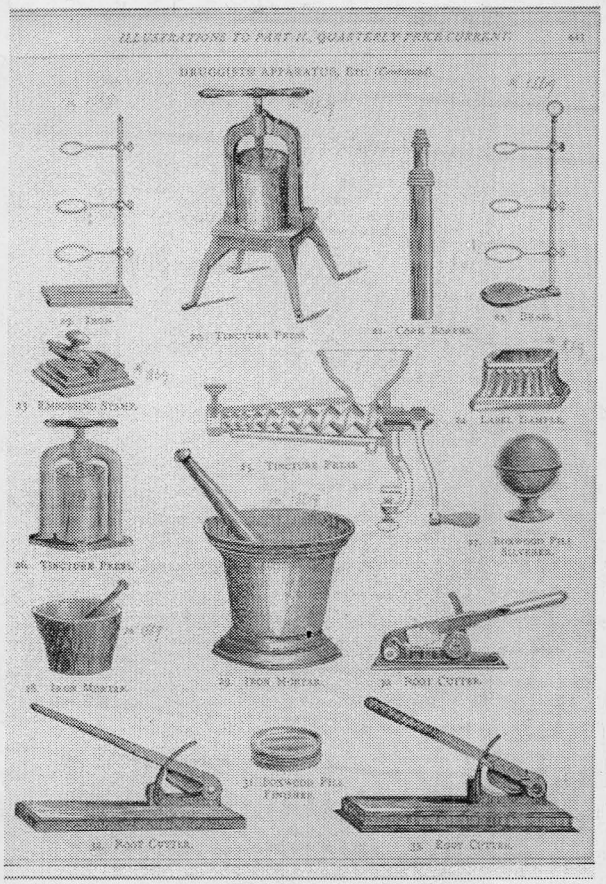
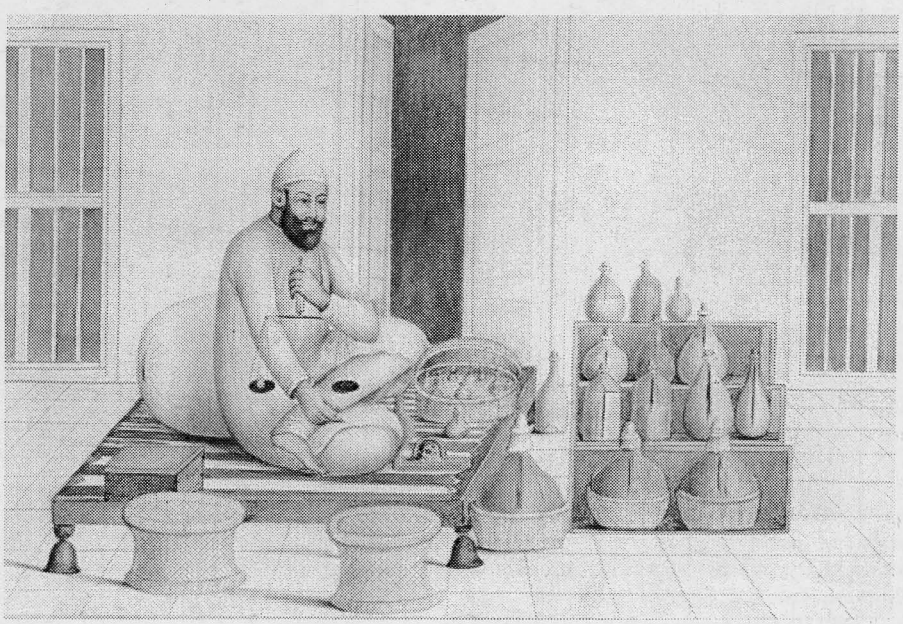
Museum of the Royal Pharmaceutical Society

Opposite: 'Druggists' Apparatus' from wholesale catalogue of S.Maw, Son and Thompson, 1882

Below: 19th century image of an Indian druggist.





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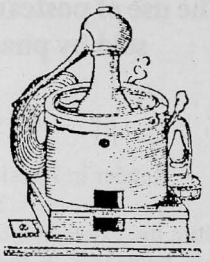

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Diary

Tues 25 September 2001
BSHP at the British Pharmaceutical Conference
History of Pharmacy session. At the Scottish Exhibition and Conference Centre, Glasgow. BPC is on 23-26 September 2001.

Thursday 15 November 2001
'A History of the Scottish Department' by Sidney Holloway. Joint meeting with the RPSGB Scottish Department to be held at 36 York Place, **Edinburgh** to celebrate the Sesquicentenary of the Scottish Department of the Royal Pharmaceutical Society.

Wednesday 6 February 2002
'The White Plague: Images of tuberculosis in the nineteenth century' by Dr Thomas Dormandy, retired consultant chest physician. At Lambeth.

Wednesday 13 March 2002
Foundation Lecture 'Researching the early history of Burroughs Wellcome' by Prof. Roy Church, professor of business history at Norwich. At Lambeth.

Friday 12 to Sunday 14 April 2002
Annual Spring Conference 2002
The Conference will be held at the St Mellon's Hotel near Cardiff. A visit to the new National Botanic Garden of Wales is planned. Further details will be circulated in 2002.

8 May 2002
'Opium in the Fens' by Dr T. Hunt.

13 November 2002
A Visit to the Society of Apothecaries

Museum of the Royal Pharmaceutical Society Events 2001
The Museum is holding the following events and exhibitions during 2001. Further details are available from the Museum office, RPSGB, 1 Lambeth High Street, London SE1 7JN on 020 7735 9141 ext 354.

Healing Science: pharmacy past pharmacy future – an exhibition exploring how changing theories and knowledge of the human body have affected the use of medicinal drugs through a thousand years – open **all year**.

Guided tours of the Museum displays and the Royal Pharmaceutical Society's rooftop views over central London are available to members and the public all the year round. From **August to November** tours start at 2.30 p.m. on the last Thursday in each month.

Postcards and greetings cards from the Museum
A new range of 24 postcards and 4 greetings cards is on sale on behalf of the Museum from the Library issue desk at 1 Lambeth High Street. All the cards show images or objects from the Museum's fine collections.

The new postcards depict a variety of historical and pharmaceutical subjects. They include caricatures from the 18-19th century, images of pharmacists and pharmacies, cartoons and illustrations of pharmacy equipment and drug jars. Further examples are reproduced with permission inside the back cover.

Dr Melvin P. Earles has been elected to Honorary Membership of the BSHP. He was a founding member of the Society and on the Committee from 1967. He served as President in 1971-2 and was awarded the Leslie Matthews Medal in 1996.

Please note the change in our email address:
bshp@associationhq.org.uk

Corrigenda

June 2001 issue, p. 26, para 2, lines 9-10 should read: placed in charge of the Dispensary at **a** Birmingham hospital in 1884.
June 2001 issue, pp. 31-2, superscript references from [21] to [29] should be reduced by one to correspond with the References and Endnotes list.

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The use of postcards to advertise products sold by pharmacies in Britain

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While the experimentally successful introduction of plain postcards in the Austro-Hungarian empire is dated precisely as 1869, in Britain printed ephemera for posting such as pictorial wrappers and envelopes designed by William Mulready had been developed before hand after the initiation of the uniform cheap post in 1840. They in turn stimulated the production of other types of pictorial envelopes that often supported particular propaganda campaigns. Plain postcards were on sale in Britain in late 1870 with the address to be written on one side only and the message on the other. America followed in 1873 with their official postcard at a postal rate of 1 cent.[1, 2]

Although British companies and trades people were quick to use them to advertise their services and wares at half the current letter rate of postage (then one penny) two rules hindered the development of the advertising postcard. The first was the insistence of the Post Office that only the official printed cards could be accepted at the halfpenny rate any others had to be at the full penny letter rate. The second was that one side of the postcard had to be reserved for the stamp and the addressee's name and address. This was discontinued in 1894 allowing message and address to be written on the same side of the postcard bearing the stamp; America followed suit in 1907 [1,2]. These changes led to a great increase in promotional postcards as those with something to sell realised their cheapness and efficacy. By the beginning of World War 1 many firms had their own postcards and successful posters were often re-reproduced as postcards. However, according to Bingham[3] postcards were a little used form of advertising patent medicines in America compared to the thousands of chromolithographic printed trade cards. Many of these survive because they were collected and stored in albums. Most American postcards were of simple style with a geographical aspect showing a factory or a drugstore when a local product was involved. In his book on American quack advertising ephemera Bingham[3] only illustrated three postcards. Others occasionally surface at Internet and specialist auctions. In Britain, a number of postcards promoted soaps and shampoos but again relatively few advertised proprietary or patent medicines. Those that did had a variety of formats to 'catch the public's eye'.

The present article illustrates the various postcards used to advertise the products sold by pharmacies. The postcards are from the author's personal collection. There have been few other articles on postcards and pharmacy and none have covered the range of promotional postcards produced in the United Kingdom. Helfand and Crellin[4] have described the manner by which the pharmacy was treated in comic postcards, Crellin & Helfand[5] discussed with illustrations the use of postcards as a resource for the social history of pharmacy, Crellin & Helfand[6] investigated the use of postcards to illustrate past health-care attitudes while Crellin[7] reported in a brief note on how three humorous postcards showed patient compliance.

Typology of postcards advertising pharmacist products

Different authors categorise postcards into various classes[1,2,8] but for convenience of this article it is useful to classify the advertising postcards into 6 categories namely:

1. **Text** – text with no, minimal or irrelevant pictorial material
2. **Pictorial** – illustration or photograph often, but not always, relevant to the text
3. **Text-pictorial** – text integrated with pictorial material
4. **Testimonial** – brief personal account praising curative properties of medicine
5. **Comic** – humorous often spoofs, designed to poke fun at drug usage / adverts
6. **Novelty** – a novel technique used to attract attention to the product

Examples of these categories are described and illustrated below. The enthusiasm for postcards in the early quarter of the twentieth century was extremely high and collecting them was very popular in Britain. Firms knew that people were likely to keep them if they were attractive and they would obviously remind them of the advertised product. Various types of postcards were created but not always necessarily for use to convey personal messages. Those printed with advertising text filling the space reserved for the message made the card useless for such a purpose and were clearly designed to be given away or to be sent by the chemist to his customers to activate them to purchase the product. Many of the 'cures' or products advertised have vanished from the market and their contents are unknown but wherever an analysis was published and could be located this has been linked with the description of the postcard.

Text

The postcard advertising 'Blinderwärt, the latest scientific discovery', shown in Figures 1a and b, had blue print on thin, poor quality pale buff card. It is unusual for three reasons. Firstly, it is of the soliciting type whose sole purpose was to allow the sender to apply for a free booklet or sample of the nostrum as it was preaddressed to 'The Berlin Chemical Co (sole Concessionaires for Dr. Hoffmeyer's Blinderwärt), 63 Baker Street, Portman Square, London W'. Second, the back of the card was practically filled with printed details about the product leaving only a

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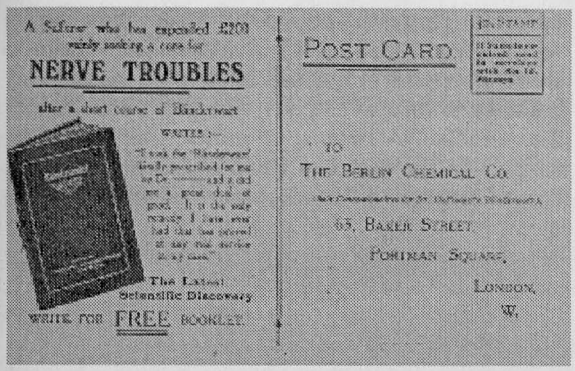

Figure 1a

space for the client to fill in name and address. Third, if the applicants gave details of their condition 'Special Advice will be given free as to diet, &c., and the most suitable method for taking Blinderwärt'. Interestingly, the name section was prefixed with Rev, Mr, Mrs or Miss. Does this suggest that the clergy would often make such requests? The text claimed Blinderwärt to be 'the purest and most powerful of nerve foods. It is not a drug or laboratory product, but is the identical nourishment provided by nature herself for the sustenance of the nerve centres and cells'. It wildly claimed to cure 'Neurasthenia, and all forms of nerve breakdown, Insomnia, whether acute or chronic, Sciatica and neuritis, Hysteria, Locomotor Ataxy, and other forms of Paralysis, Neuralgia and Headaches, Lessened Power and energy, and, whenever cure is possible, any and every disease of nervous origin'. Postage requested in the stamp area is ½d. The card is undated.

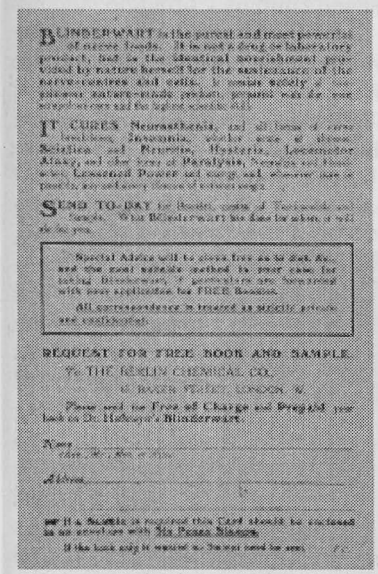

Figure 1b

Another example (Figure 2) advertises a cure to treat 'HAY FEVER. INFLUENZA, HEAD COLDS, &c.' using HAKKA CREAM. The text (with a small diagram showing a tube of the cream) is printed on the back of the buff coloured card in light brown ink. The text below the tube reads 'INSTANTLY RELIEVES. A SPEEDY EFFECTUAL CURE. Send this Postcard to anyone you know who suffers with Hay Fever. Of all Chemists, 2s. 3d. or A. P. BUSH & Co., 1 Gresham Buildings, London, E.C.' Interestingly the fronts of these cards have panoramic, black and white photographic scenic views of Wales of no relevance to the advertised product (or the vendors/manufacturers of the cream)

Figure 2

making them appear to fit the Topographical category of postcards. The one illustrated (numbered 3207) is of Llandudno bay. A second one (not illustrated) with identical advertising copy on the back of the card was of cliffs in Gower (numbered 2464). It is likely that the firm bought a remaindered series of Welsh views cheaply and simply printed their advertising material on the backs. The cards are undated.

Pictorial

This is the largest category with a variety of styles. Firms produced single cards to advertise a product while others used a series with different pictures but all advertising the same product.

The card illustrated in Figure 3 was produced for Daisy Ltd, Leeds, Yorkshire and was postmarked 1905. It shows a coloured painting of an idyllic scene of a pretty, blond, bonneted young girl who is holding a chain of daisies (an obvious connotation to the firm) and is a card with general appeal. Beneath the picture are the words 'Published by kind permission of Daisy Ltd, Leeds. Proprietors of the FAMOUS DAISY HEADACHE CURE.' in very small red print. The firm was established in Leeds in 1898 and manufactured headache cures. Their initial product, known as Daisy Powder, contained only Acetanilide (priced at 7½d in 1909). The medical profession was very much against the introduction of Daisy Powders to the British market because despite the known toxicity of this compound it was advertised extensively to the public. It was one of the most widely used analgesics

Figure 3

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and antipyretics, prolonged dosing gave rise to aplastic anaemia amongst toxic side-effects. According to Tring[9] it became the focus of a series of legal battles by the Board of Inland Revenue in relation to duties upon medicines and the need for retailers to have a Patent Medicine License (costing 5 shillings) to sell the powders. The reluctance of small shops to buy the license reduced the firm's market share. To overcome this they produced another powder with a similar label confusingly named 'Head Powder, Daisy Ltd, Leeds.' The Board, however, demanded that packets bearing different names had to have a different substance so the new Head Powders were produced containing only Phenacetin. These were ruled to be duty free and could be sold by unlicensed traders allowing the firm to regain its market share via the small shops. Goodman & Gilman[10] describe both compounds as inferior in terms of toxicity and analgesic potency to aspirin that later replaced them. It is interesting to note that while the postcard used the image of a young child to promote the powders the labels of both warned that they should not be given to young children with the admonition 'Beware poisonous nerve powders'! J.E. Ellis bought the company circa 1920.

A powerful strategy employed by some companies was to use a painting(s) of a highly reputed artist to advertise their product. The most brilliant example of this style of marketing used the oil painting entitled 'Bubbles'. John Millais, one of the most talented and technically able of the Pre-Raphaelite artists, painted in 1886 this study of an angelic young boy watching an ascending bubble that he had blown from a bowl of soapy water (Figure 4). The first purchaser of the picture sold it on to the proprietor of A & F Pears Ltd, London who used it, with the grudging permission of Millais, as the spearhead of a campaign to promote their Pears soap and its simple purity (the early transparent product was a resin soap dissolved in spirit during its making mixed with sugar and a little castor oil). The picture was modified by adding a small bar of dark-red soap impressed with the word PEARS in white on the floor near the foot of the seated boy. Its commercial use resulted in adverse press comment for a long time. However, the popular impact of the picture was so great, lasted for so many years and became so well known that in later advertising campaigns only the angelic face of the boy was needed to identify their product. A number of printed messages were created on the backs of Bubbles cards such as 'A beautiful coloured reproduction of "Bubbles" size 28 by 19 inches free from any advertising will be sent post free in the UK on receipt of 11d in stamps or postal order. A & F Pears Ltd, 71-75 New Oxford St., London W.C. The postcards with the miniature of the picture would be sent out 12 for 2d in stamps'. Remarkably, the Bubbles image was the most widely seen example of Millais's work and is still recognised as a soap advert today some 105 years later!

Figure 4

Mellins Food, manufactured for infants and invalids, by Mellins Food Limited, London issued reproductions of classical religious paintings on their postcards. One showed a Madonna and child by Correggio, another Madonna Di San Sisto by Raphael both from the Dresden Gallery while a third showed a Madonna but with no attribution (Figure 5). On the back of the cards was a drawn bottle of the powdered food with the text 'Mellin's Food is entirely free from starch, and its easy adaptability to the varying needs and requirements of different children is one of its distinguishing characteristics. Mellin's food when prepared according to the directions yields the **brain, bone** and **muscle** forming substances so necessary to the growing child and furnishes sufficient and proper nourishment. For the mother whose supply of breast milk is insufficient for her baby or poor in its quality, there is nothing that will give greater satisfaction than **Mellin's Food.**' This text and bottle illustration took up so much space there was very little left for a written message, approximately only half of the half-card space. Clearly the cards were to be collected rather than used for postal messages. Religious themes were said to be common in American medical advertising[3] and these Mellin postcards are a British example using the imagery of the purity of the Madonna and her godchild to underscore the worthiness of the food product.

Figure 5

Ficolax, a fruit laxative, issued a series of still life

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paintings of collections of fruit. A small oval logo was in the right hand corner with 'Ficolax The Original Fruit Laxative' and the printing 'FICOLAX FRUIT SERIES numbered 1-6' in the bottom left-hand corner. Only two of the paintings (3 and 6) are signed with the initials M.A. of an unknown artist. The text on the

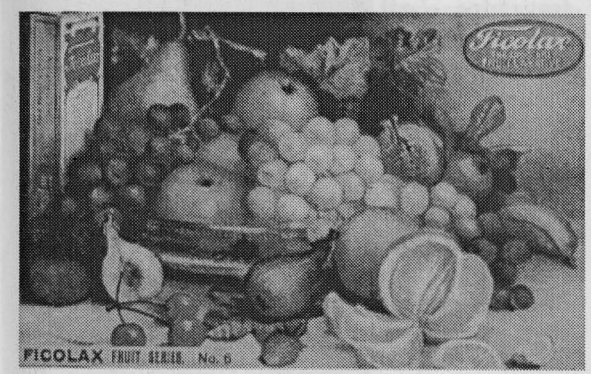

Figure 6

reverse merely states 'With the compliments of the Proprietors of Ficolax. Manufactory: Graham Street, London N.1.' The card number 6 with the mixed fruit (Figure 6) is the only one where the Ficolax labelled box of the product is shown in its box. The fruits chosen are oranges in no.1, figs in no. 2, apples in no. 3, pears in no. 4, strawberries in no. 5 and mixed fruit (grapes, pears, oranges, banana, cherries and strawberries) in no. 6. Although the paintings are not of the highest quality they are pleasant enough and would certainly have been collectable even if chosen not to be sent, bearing in mind that laxatives have an air of indelicacy! The cards are undated.

Figure 7

Two cards exemplify the obvious use of attractive women to promote skin products. One is a reproduced painting of a head and shoulders portrait of young woman with a pronounced décolletage exposing the top half of her breasts headed 'A TYPE OF BEAUTY' (Figure 7). Under the portrait is printed 'A BEAUTIFUL SKIN AND COMPLEXION If you would have this remember that BEETHAMS "*Lait Larola*" will give it you sooner than any other preparation. It acts like magic in removing all roughness, redness, irritation, chaps, etc. A little used after washing will keep your skin like velvet all the year round. Bottles 1/- of all chemists. Send a stamp for dainty sample to M Beetham & Son, Cheltenham'. On the back of the card is text printed in brown ink advertising two other skin preparations made by the firm, one called 'Larosa Rose Bloom' the other 'Larola Lily Bloom' and or 'Larola' Soap largely filling up the space for messages. The date of the card would be circa 1911.

The second card is from a photochrome Celesque series published by The Photochrome Co, Ltd., London and Tunbridge Wells about 1910 for the manufacturers of the skin cream called EXOL (Figure 8). A posed young lady of flawless complexion with a considerable area of her shoulder and chest exposed is holding up with her left hand and pointing with her right to a container of the ointment with a multi-coloured printed lid and it is possible to read 'Majestic Curative Cream Price 1/1½d' printed in yellow around the circumferential black border of the tin while above and below the large EXOL printed clearly in the middle of the lid can be read 'The worlds cure eczema' and 'all skin troubles.' In the left hand corner is a similar but larger EXOL tin again with ' Majestic curative cream' and the Price 1/1½d around the circumference while inside this printed border is ' The worlds cure eczema' and below the EXOL 'Burns, Scalds, Sores, Cuts, Boils. And all skin troubles.' The print underneath these words is too small to be resolved. Another card in the same series (not shown) had a different model but with a similar pose and hairstyle, this time holding the printed lid in her left hand and pointing to it to with her right. The large printed lid was shown in right hand corner and was of slightly different design to the previous card. There was still circumferential printing of 'Majestic/Curative Cream' with the centred EXOL surrounded by the inner text 'A guaranteed cure for all skin troubles' but the border was a salmon colour. Both cards are examples of high quality colour printing.

Figure 8

Another card with the product on display and being shown administered to a baby is that for Scott's Emulsion (Figure 9). This shows an oil painting of an Edwardian costumed lady feeding a dose of Scott's

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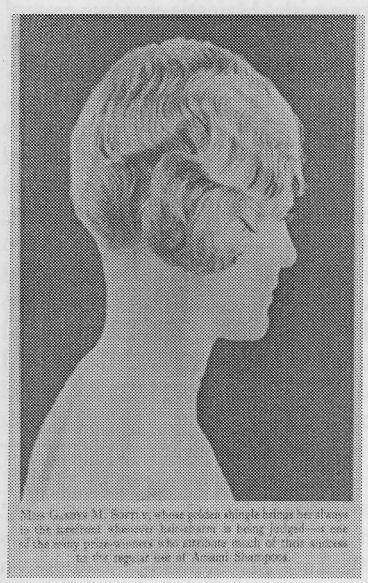
Emulsion to a strangely apprehensive half naked infant. The bottled product is displayed and the text of the label 'Scott's Emulsion Cod liver oil'. With magnification it is possible to read 'Hypophosphates' and 'Lime and Soda' the latter presumably used to mask the unpleasant taste of cod liver oil *per se*. The reverse of the card has 'For Coughs, Colds, Lung

Figure 9

Troubles and building up after illness take SCOTT'S EMULSION.' The card is undated. A product called Scott's Emulsion is still marketed by SmithKline Beecham Healthcare that contains cod liver oil and is a source of Vitamin A and D.

Sepia photographs were used to soften images especially if they were of females and their coiffures. The card in Figure 10 shows an example of a young woman with a shingle hairstyle with the caption 'Miss GLADYS M. SOFTLY, whose golden shingle brings her always to the forefront whenever hair charm is being judged – is one of the many prize-winners who attributes much of their success to the regular use of Amami Shampoos'. The card is postmarked 1927. This type of advertising had a simple message: if the female customer used the product they too would be 'in the forefront whenever hair-charm is being judged'. Amami came on the market in 1926 with the popular phrase 'Friday night is Amami night' and produced many cards of this type around the 1930s with different models and actresses of the period often with simple testimonials praising the product. One advert claimed that the shampoo contained orris root (to stimulate growth), tansy and meadow-sweet (to keep the scalp healthy), bergamot, myrrh and Otto of roses to leave a lingering fragrance – all blended with 41 other compounds!



Miss Gladys M. Softly, whose golden shingle brings her always to the forefront whenever hair charm is being judged – is one of the many prize-winners who attributes much of their success to the regular use of Amami Shampoos.

Figure 10

The Guderin postcard is very simple, showing a painted colour portrait of a society lady of the 'fin-de-siècle' with a complex head-dress above the slogan 'Guderin generates Blood and strengthens Nerves' in an oval (Figure 11). The card is undated but has A & MS No 602 printed in red along the side margin. Unusually the reverse has 'Postcard' printed in some 16 different European languages suggesting the product was sold in the European market.

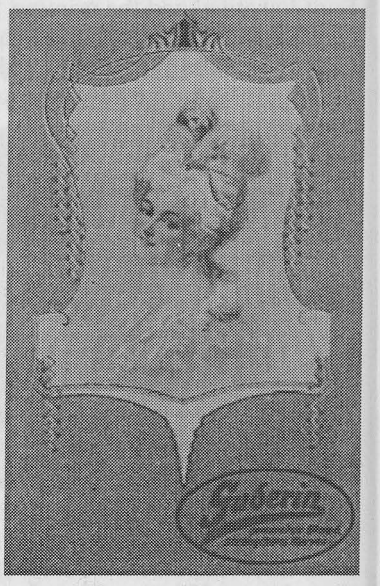


Figure 11

Text – pictorial

An exceptionally dramatic, coloured graphic image integrated with text was created for the postcard promoting ZOTOS (Figure 12). This shows a white lighthouse highlighted against a dark sky and illuminating by its beam of light a white circle in the sky filled with a simple direct message printed in red that 'ZOTOS absolutely prevents SEA SICKNESS, TRAIN SICKNESS ETC'. In the background, on the horizon, was a large, four-funnelled ocean-going passenger liner. On the reverse in the space usually reserved for the name and address is printed a roped lifebelt filled with a choppy sea with Zotos on the horizon. Printed on the lifebelt is 'Absolutely Prevents sea sickness'. In the oblong box on the left hand side of the belt is in italics 'A Reliable and Well-advertised Remedy for which there is good demand' and on the right hand side 'Packed in a neat enamelled box convenient to carry in the waistcoat pocket or purse'. Underneath the belt is printed ' On the P.A.T.A. List and Certified harmless by Mr. E. J. Parry B.Sc., F.I.C., F.C.S. Zotos is an admirable specific against Seasickness, Trainsickness and all forms of Nervous Sickness, and can be recommended to Customers with every confidence. Price lists and advertising material sent free on application to Sole Proprietors Zotos Ltd, 32-34 Theobalds Road, W.C.' The date is around 1908. The wording of the text strongly suggests that this postcard was made to be sent to chemists, druggists and other

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Figure 12

shopkeepers rather than as a card for the public.

Before and After images were popular in American trade cards but one of the relatively few produced in the United Kingdom is that for 'Gossages Magical Soap'. This striking image advertising soap shows a bisected smiling male face, one side black the other white (Figure 13). The caption reads, 'Makes black white'. The impact of the advert with its simple slogan is powerful but in today's world it would not be politically acceptable. The date is circa 1906 as there is a small print reading 'Copyright entered at Stationery Hall' on the front of the card. It is interesting to note that the concept was used previously on an American trade card published in 1878 advertising Lautz Bros' & Co's Soaps, Buffalo, New York. The card has a white salesman using a tub of soapy water and a scrubbing brush to wash the face of a black man white. The caption on the tub was 'Beat that if you can'. Whether Gossages were familiar with this earlier tradecard and copied the idea onto a postcard is an intriguing thought.

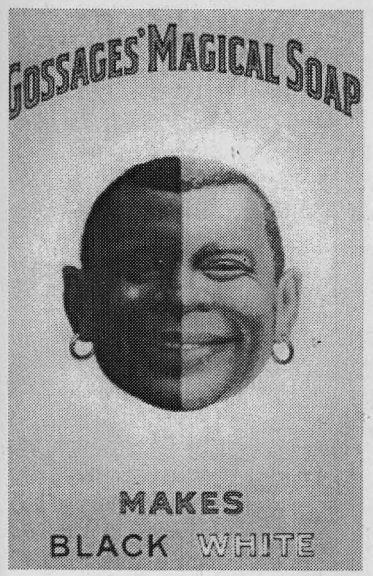

Figure 13

The postcard produced by Carter's Little Liver Pills (Figure 14) is unique in that it combines product advertising and a strong patriotic message. Below the billowing flags of Belgium, Russia, Great Britain and Japan (the original group of nations that fought Germany and Austro-Hungary from August 1914-1918) is a picture box showing a well-built man who is stripped to the waist being spoken to by an older, suited man (doctor?) holding papers. The scenario is obviously of an army recruiting office medical and the man is presumably taking the medical examination to enlist. The text in the box reads 'Carter's Little Liver Pills for ACTIVE SERVICE. For the keen eye of perfect Health. Biliousness Torpid Liver Constipation'. At the base of the card in red is the text 'For a free special offer see on the other side'. The message on the reverse, printed in brown ink, was for 'Free Picture Postcards'. By sending the outside wrapper of a phial of Carter's Little Liver Pills to Carter Medicine Company, 46 Holborn Viaduct, London one could obtain 6 Postcards of Historic buildings of the British Isles. According to the BMA[11] these pills were sugar coated and contained aloes, podophyllin, powdered liquorice root and wheat starch. Aloes and liquorice are laxatives and podophyllin a strong cathartic. Dr John Carter originated Carter's Pills in Erie, Pennsylvania circa 1840. His pharmacy grew and finally shifted as Carter's Medical Company to New York where a new product named Carter's Little Liver Pills was put on the market in 1893. The firm had already expanded abroad in 1883 in a deal with a London firm to sell and advertise its products. This was done extensively and the pills were advertised heavily for many years. After a number of court cases the firm abandoned the use of the word 'liver' as the US authorities argued that the pills only had generic properties and were not targeted to a specific organ. They became Carter's Little Pills and are still sold as a laxative but they now contain aloin and phenolphthalein. In April 1992 they were withdrawn from the list of products that could be prescribed under the Government National Health Service pharmaceutical schedules (Statutory Instrument 1992: no. 635; NHS and GMS Regulations).

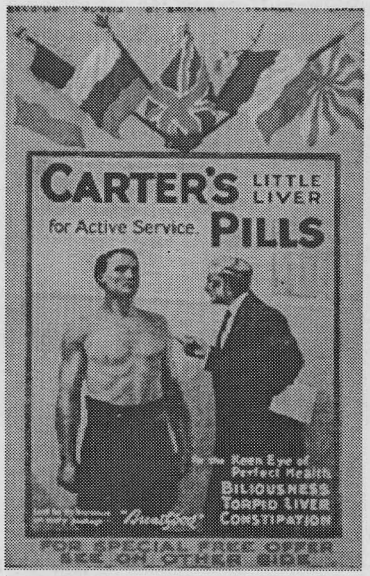

Figure 14

The coloured card for Owbridge's Lung Tonic (Figure 15) shows an 18th century scene of a man on horseback (John Gilpin?) riding away from a shop with two packages tied to his waist under which is the rhyme 'Then might all people well discern the bottles he had taken. He knew in Owbridge's repute he could not be mistaken'. Two oval logos on the right and left hand sides of the bottom of the card enclosed the message 'When you ask for Owbridge's lung tonic be sure you get it'. The reverse was printed with 'OWBRIDGE'S LUNG TONIC for coughs and colds

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be sure you get it'. The front of the card in the top left hand corner had Owbridge's Gilpin Series in small print. Gilpin, a linen draper, was the subject of a poem written in 1782 by William Cowper. He set off on a wedding anniversary journey but got taken by his

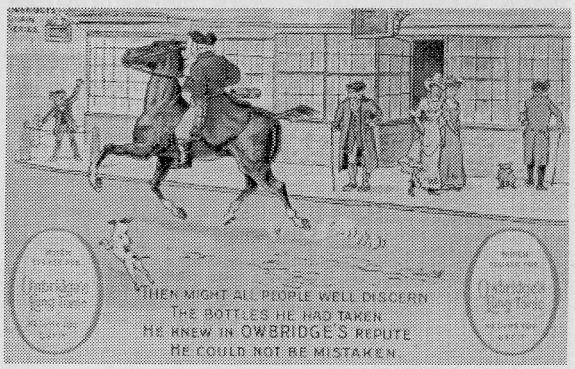

Figure 15

horse further than he meant to travel. The tonic was created by J.W. Owbridge a chemist in Hull. It sold in 1929 for 1/3d a 2-ounce bottle and contained[12] chloroform, alcohol, sugar, oil of aniseed, capsicum, peppermint and traces of Ipecacuanha. The cost of these ingredients was about 1½d. The mixture of substances was eclectic; in small doses ipecacuanha is an expectorant (a substance that assists the removal of phlegm by coughing), capsicum was regarded as a warming stimulant, chloroform however is an anaesthetic and at low doses would act to depress the cough reflex!

Comic

A variety of comic cards were produced. Two of a 'Handy to Have in the House' colour printed in Germany for the firm simply named as BB, London series (Series no 34) are shown in Figures16 and 17

Figure 16

and are examples of spoof cards advertising nostrums. The first (Figure 16) advertises a bottled tonic labelled 'PICK ME-UP' which claims to be a 'certain cure for dry tongue, thick head etc' the usual morning symptoms of taking excess alcohol the previous night! The rhyming text preaches with tongue in cheek 'Dissipation, well I know at all times you'd be Scorning, But still you'll find it handy if you're Seedy in the morning'. The stamp is postmarked 1921. The second of the series (Figure 17) advertises a bottled spoof hair restorer called 'TATCHO' with the rhyming text 'I wouldn't suggest that at present of this, you're using a drop. But you possibly may Discover some day, You've a little bit off the Top.' These spoofs worked because the public was very familiar with the large number of advertisements for hair- restorers and tonics.

The card in Figure 18, of the Burlesque series (Copyrighted) and colour printed in Saxony, has a photo of a youngish female model wearing a flowered bonnet and made up with blackened teeth and squinting eyes to look like an old hag under which is printed the humorous rhyme ' Mary had a little watch and swallowed it they say, so now she's taking Reechams Pills to pass the time away.' The font for this rhyme has been carefully chosen so that at a first, quick glance the word 'Reechams' looks like Beechams. Beecham's Pills were a secret remedy invented by Thomas Beecham about 1845. His first patent medicine license was dated Liverpool, 8th July 1847. They were heavily advertised to be worth 'a guinea a box' and cost, in 1909, 1/ 1½d although the cost of the ingredients of the 56 pills in each box was according to BMA Secret Remedies[13] worth about half a farthing (quarter of a penny). While claimed to cure a host of conditions they were often taken for

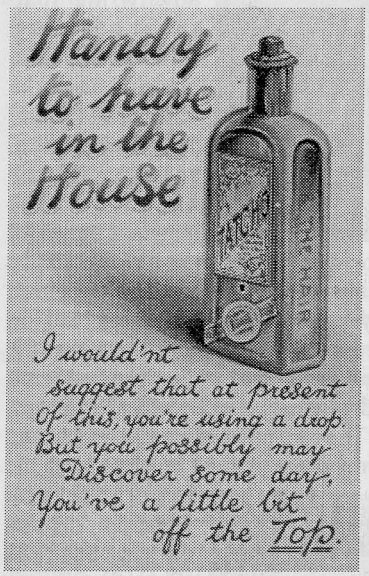

Figure 17

Figure 18

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constipation hence the defaecatory allusion to 'pass the time away!' They contained[13] originally Aloes, powdered soap and powdered ginger, the former two being mild laxatives. Clearly the producers of the card could not print the Beecham trade name in case they were sued but cleverly used Reechams knowing that it would be likely to be misread for the real thing by practically everyone. It is interesting to note that the cost of the Pills in 1909 was 1/1½d per box; in 1929 it was 1/3d per box while in 1940 it was 1/4d (including purchase tax). Thus over 31 years the price only changed by 2½d, some 18.5%.

In fact Beecham's Pills themselves used humorous, if not comic, advertising postcards. Figure 19 is one of a series they produced. It could as easily have been put in the Novelty category as in the Comic. Its pointed humour lies in the statement at the top of the card 'BEAUTY AND HEALTH GO HAND IN HAND. *You see what I mean!*' The images are of a petite, demure, beautiful woman standing next to a rather grotesque smirking man with crossed arms. His left hand is holding that of the female beauty while his right hand is holding between thumb and for finger a small round box the printed label of which can just be read as Beecham's Pills. Beneath the couple is the heavily promoted slogan 'Take BEECHAM'S PILLS Best for me, best for you'. The reverse of the card has 'Published by the Proprietor of BEECHAM'S PILLS.' and Printed in England. Interestingly, this product containing aloin is still on the market.

Figure 19

Testimonial

The firm that made Phosferine, a heavily advertised so-called nerve tonic, promoted it with a large series of testimonial postcards. Two are shown as examples. The first produced, headed 'Life Stories Illustrated = No. 1.' is shown in Figure 20. On the front of the card is printed a small coloured sketch of an elegantly dressed lady and her daughter with a top hatted manservant in the background carrying a travel rug set in the Mediterranean background of Monte Carlo. The testimonial is headed 'A PRETTY LITTLE HEIRESS' and from Mrs. EMILY BINGHAM DE.... —— Hotel . . . Monte Carlo (who) writes "I feel it is my *duty* to send you these few words. My little girl of ten is exceedingly delicate although *sound* in every organ, but through weak digestion she is unable to take sufficient nourishment. She is a little only child and, as means are fortunately not lacking, you can be sure I have consulted our best medical men, but with no good result. She suffered frightfully from *Constipation*, and the only *remedy (?)* that has been given to her for that is an *aperient* of which I disapprove. Having derived *enormous* benefit from your Phosferine for indigestion and sleeplessness, I decided three weeks ago to give it to my little girl. Since then she has had no more trouble with her bowels and is regular as *clockwork*. I have purposely not written to you before, because I wished to see if the *good* was a permanent one. You can make any use you like of this testimonial only please do not put name. My brother-in-law Senor Don Edwardo de . . . is the President of . . ." —April 24th 1903.'


Life Stories Illustrated-No. 1.

A PRETTY LITTLE HEIRESS

Figure 20

This is a remarkable piece of period writing in which a 'society Lady' blatantly discusses for the public domain the bowel movements of her young daughter! With this testimonial there was no way of checking its bona fides.

A quite different type of testimonial is on the front of the second card shown (Figure 21) headed 'Life Stories == Illustrated No. 32.' The card has printed a small coloured sketch of a seated, invalid old lady attended by an elderly bearded and bewhiskered gentleman and a young woman. It is clear that the elderly couple is the young woman's parents and she, Miss Reachill, is the author of the testimonial. It reads "I thank you very much for the Phosferine which reached me yesterday morning, also for receipt this morning. Several years ago I was suffering much from neuralgia and tried various remedies without getting any relief, when I saw the advertisement of your Phospherine, which quite cured me. I have also taken it when feeling run down and mentally tired, with the best results. I am now trying it for my mother (78 years of age), who has been suffering from neuralgia, left after a severe attack of shingles. I have neither profession nor any definite employment except my daily round of home duties. I have the care of my two aged parents and that, of course, entails a good deal of anxiety and confinement to the house. My mother has derived a great deal of

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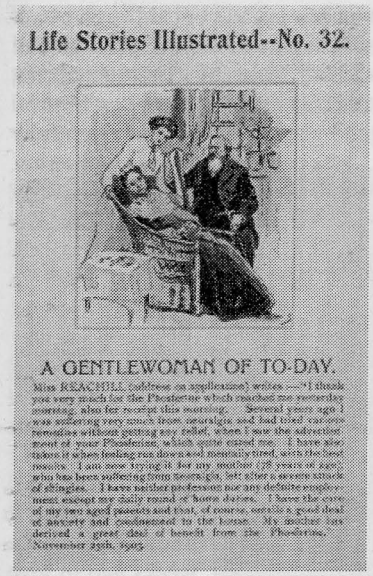

Figure 21

benefit from Phosferine." November 25th 1903.' Presumably to prove that this testimonial was genuine it is stated that is possible to get on application the address of Miss Reachill (this was not available for the society testimonial).

On the back of both cards is printed 'PHOSFERINE The Greatest of All Tonics A Proven Remedy for Nervous dyspepsia, Stomach Disorders, Rheumatism, Brain Fag, Indigestion, Premature Decay, Anaemia, Impoverished Blood, Nervous Headaches, Sleeplessness, Neuralgia, Mental Exhaustion, Influenza, Hysteria and all disorders consequent upon a reduced state of the nervous system. The Remedy of Kings. Phosferine has been supplied by Royal Commands to the Royal Family and to the principal Royalty and Aristocracy throughout the world. Bottles at 1/1½d, 2/9d and 4/6d. Sold by all Chemists, &c. The 2/9d size contains nearly four times the 1/ 1½d size. ASHTON PARSONS Ltd, 17 Farringdon Rd, E.C.'

According to the BMA[11], analysis of the tonic showed the presence of alcohol (8 parts), quinine (0.67 parts), phosphoric acid (54.6 parts) and a little sulphuric acid (2 parts) made up to 100 parts with amber-coloured water. The estimated cost of these ingredients for one fluid ounce (2/9d bottle) was one half penny! It is of little doubt that none of them could have made any difference to the various conditions the preparation was claimed to alleviate. Moreover, it appears that Royalty and the aristocracy were just as gullible as the populace at large! From her testimonial Miss Reachill was obviously taking the tonic to alleviate her mental exhaustion or 'brain fag' a now outdated but then much-used term to describe mental exhaustion. The stamped card was postmarked 1906.

Novelty

An unusual Welsh novelty card advertising a nostrum is shown in Figure 22. Like the text only card shown in Figure1 this card is also a soliciting card. The front has text printed in mirror or backwards writing with the instruction 'Use a Mirror' at the top of the card in normal print. The mirror text reads 'Morris Evans Household Oil for Rheumatism, Sciatica, Lumbago and Invaluable for Cuts, Burns, Scalds and Wounds. Sold in Bottles 1/1½d & 2/6d by Grocers and Chemists or Direct (Post Free) from Morris Evans & Co., Festiniog, N. Wales.' It was printed by Holloway & Sons, Redcliffe, Bristol. On the back of the card is printed 'The Manufactory, Festiniog. Dear ..... Your esteemed order to hand. We will forward same immediately on receipt of..... We wish you to clearly understand that this application is not intended as a reflection of your credit, but it is absolute necessary owing to the numerous transactions of which we cannot keep ledger accounts. Yours faithfully, Morris Evans & Co'. The manufacturers obviously wanted their money before parting with their goods! The card is undated.

Figure 22

Conclusion

Postcards advertising pharmacy goods are now relics of the past. They are becoming rare collectors' items especially those reproducing posters designed by well-known artists and can command remarkable sums at specialised auctions. The advent of the Internet with its myriad websites and ability to present large amounts of free, up-to-date information is the modern way to advertise such commodities for a better educated populace but the variety and ingenuity shown by the makers of the cards is still a match for the net!

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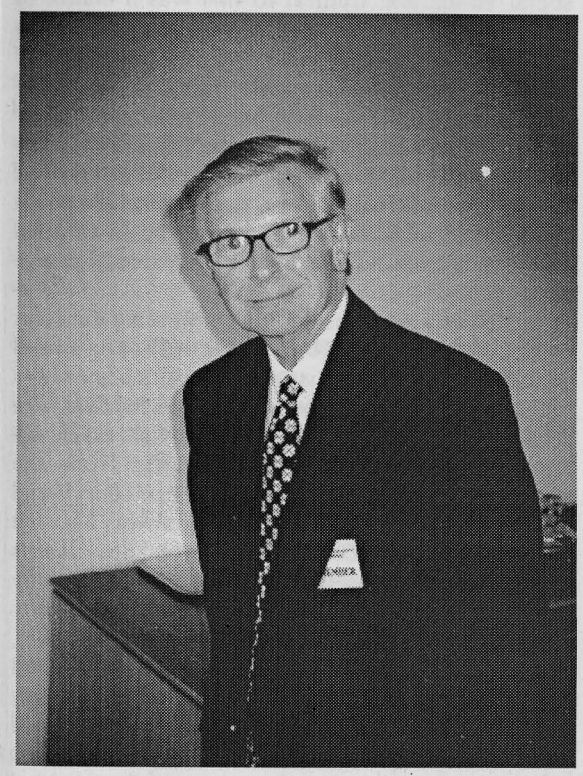

Dr John Crellin, who gave the following paper at the BSHP meeting on 9 March 2001

Social Validation: An historian's look at complementary/alternative medicine

Dr John K. Crellin

Historians and others have increasingly pondered on the waves of complementary/alternative medicine (CAM) – the nineteenth-century rise in popularity, the decline and then phoenix-like rise again in the late twentieth-century. Some, of course, suggest this forecasts that current interest is destined to fade, if not disappear. On the other hand, others focus on its persistence, and why it is currently so prominent. Guenter Risse exemplifies those who see psychological factors as particularly significant when he notes a 'perennial yearning for individuality and holism in therapy, a fact attested to by the impressive scope and popularity of contemporary alternative healing methods.'[1] In contrast, others tend to stress the effectiveness of CAM treatments on the basis of a long history of empirical usage. However, on this J. C. Whorton raises points for discussion:

> Alternative systems have usually started by relying on empiricism and outcome reports, and then often either degenerate into dogma or get absorbed into an orthodoxy-like professionalism.[2]

This resonates with Mike Saks' view of alternative medicine as counter culture, but because the boundary with conventional medicine is not a firm one, the door is open to incremental integration.[3]

I want to add to the discussion on reasons for persistence and current popularity by asking what may seem an indirect question: Why were so many treatments once accepted as effective, yet have since been discarded as useless or mere placebos by conventional medicine?[4] Behind this question – at least in part – is the frequent condemnation of past therapies, sometimes because memories have been blunted by such spectacular advances in twentieth-century treatment as antibiotics and psychoactive drugs. Influential physician/writer Lewis Thomas, for instance, stated (1979) that all treatments before his time had been 'the most frivolous and irresponsible kind of human experimentation.'[5] And, in Newfoundland, physician James McGrath wrote in 1974:

> Looking back, it is hard to believe how limited was effective medical treatment in 1922 . . . not really much more effective than a hundred years before . . . At least *ninety-eight percent of all medicines were worthless*, as are the majority of those we swallow to-day, but to-day at least a substantial proportion of medicines are effective and useful.[6]

My rejoinder to constant comments about ineffectiveness is in line with other historians who stress that, rather than being dismissive, we must understand the context in which medicines were used. We cannot dismiss out of hand positive testimonies from past generations of both patients and physicians that medicines 'worked,' even bearing in mind that many physicians often deliberately used the placebo, at least until the 1950s or '60s. A condescension toward the 'ignorance' of our predecessors prevents any understanding of how the effectiveness of remedies became validated by what I call social validation. Of course, this does not exclude scientific evidence, though what this means has changed over time as is fairly obvious when we remember current dependence on clinical trials, consensus conferences, and the approaches of evidence-based medicine.

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Social validation – meaning how medicines become widely accepted in society – is also dependent on more obvious socio-cultural changes such as trends in popular health beliefs.

This paper falls into two parts. The first, the longest, explores an example of social validation through a case study of the concept of weakness. To do so, I will use aspects of the story of medicines in Newfoundland in the first four decades of the twentieth century – prior to the many changes centering around World War II and its aftermath – a story with strong parallels to Britain and elsewhere. I argue that constant references to bodily 'weakness' helped to establish and sustain this as a primary medical problem that embraced worries over being socially handicapped by weakness. Weakness underpinned many therapeutic and health practices offered either over-the-counter or by physicians. In turn, the very existence of those therapies and health practices, buttressed by local social conditions, discouraged close questioning of weakness as a fundamental medical problem and, in fact, reciprocally validated it.

The second part will look first at the current CAM scene and suggest that, as we try to understand the widespread beliefs about its effectiveness, we must give due consideration to the role of social validation that draws together a range of socio-cultural considerations. Secondly, in the context of the earlier discussion, I comment on what I see to be some of the issues facing pharmacists, especially in view of the recent Council thinking – albeit made in the context of product safety – that 'it is vital that pharmacists or medical practitioners can give appropriate advice on the use of complementary medicines.'[7]

PART I: A case study of weakness

To start with I want to establish clearly the notion of social validation. The choice of Newfoundland as an example is not only because of its convenience for me, but also because its geographical and social circumstances sharpen various issues perhaps less obvious elsewhere. It is an exotic place (although not in the tropical sense) – covering an area slightly larger than Ireland – in the turbulent North Atlantic, with a small population edging to 250,000 around 1900, many of whom lived in over 1300 small communities scattered around a rugged coastline. Of course, Newfoundland's status as a British colony, until it became a province of Canada in 1949, is not without relevance in influencing medical and pharmaceutical practices, though the United States and Canada are not without significance.

The optimism of the opening years of the 1900s – a relatively golden economic age in Newfoundland, the new face and style of Edwardianism in Britain, and the progressive era in the U.S. – did not see any dramatic change in the pattern of medicines (over-the-counter or prescribed) that were in everyday use, even with the late nineteenth-century introduction of analgesics/antifebrifuges, from acetanilide to aspirin. Certainly not new was a range of products that were promoted to fortify, to strengthen, to revitalise the energy of the body (or parts of it); such products included foods considered to have medicinal or specific health effects (health foods), general tonics, and treatments for tuberculosis, chlorosis, anaemia, asthenia, nerves, kidney conditions and women's disorders.

Even aside from the harsh blanket judgments on early twentieth-century therapies already noted, few of the countless claims for the treatments can be considered justified by today's standards; however, at the time confidence in their *usefulness* – and I choose this word carefully – owed much, I argue, to social validation. Central to this was a matrix of factors. Aside from clinical support from conventional medicine and the growing authority of physicians and of pharmacists (e.g., in the use of tonics), the validation drew on ideas popularised by health reformers in the nineteenth century, on 'traditional' usages, on positive experiences of patients, on current concerns with fitness, and on social conditions, as well as on reciprocal validation from , as I have said, the diverse and extensive range of products.

Particularly relevant, too, in reinforcing concerns over weakness in Newfoundland were social problems. A significant issue was nutrition and views about its inadequacy for many Newfoundlanders, who relied on a staple of salt meat and salt fish, especially towards the end of winter. Aside from the accompanying incidence of beri-beri, scurvy and rickets until the 1940s, poor nutrition was also felt to lead to non-specific malaise and weakness. It says much that, over many years, physicians, generally immigrants, found Newfoundlanders to be 'peculiarly unintelligent with regards to medical matters' (1908), 'apathetic' (1937), 'somewhat slow in mental reactions and lacking in initiative' (1945) and of 'low I.Q.' (1951).[8] Although not all physicians correlated such characterisations with poor nutrition, its seriousness became clear from surveys that justified programmes, from the nineteen-thirties onwards, promoting brown bread and vitamin and mineral fortification of foods.

Very much associated with Newfoundland concerns with diet was another medical/socio-economic issue, the high incidence of tuberculosis seen by some Newfoundlanders to be due to starvation or to weak lungs. This emerged as a major public health problem in the first decade of the 1900s, and was endemic until the 1950s. During all this time, with most small communities only accessible by boat, care of patients was particularly difficult. Of necessity, home care was widespread, though in describing this as a 'grim joke,' it was said in 1936 that 'neither the housing, the diet,

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the sanitation, the habits and the social customs of our people are favourable to its success.'[9]

Before commenting on various preparations that underscore weakness as an issue, some introductory points are necessary. In talking about weakness, I am not only referring to specific references to it, but also to malaise, debility, constant fatigue, the run-down feeling, the need for more energy and so on. Moreover, the term covers not only general weakness, but also such specific conditions as 'weak nerves'. There was, too, a persistent undercurrent of what was called asthenia. This was a legacy of the disease classification by the reactionary eighteenth-century physician John Brown. He divided diseases into two broad categories: asthenic diseases (characterised by a deficiency of natural energy or excitability) and sthenic (in which the body had an excess of excitability.) Asthenic conditions, often with weakness, were to be treated by stimulants such as a solid diet and medicaments, of which Brown favoured opium, camphor, musk and ether.[10] In the early twentieth century, although this Brunonian classification was long outmoded, a few medical textbooks continued to refer to 'asthenia' until the 1920s with many suggested prescriptions based on, for example, strychnine preparations.[11] Other texts ignored the term or used it to define particular conditions, for example, asthenic pneumonia.[12]

My second introductory point is a little general background, at least to hint that other medical/social factors – from physician prescribing habits to entrepreneurship in pharmacies – were at play in shaping the medicines used by Newfoundlanders.

ALSTON'S HEALTH FOODS

Once Tried Always Used

Brekfast Food [sic]	Pancake Flour
Barley Food	Hominy Grist [sic]
Health Crisps	Cereal Coffee[13]

This 1907 advertisement, from a grocery not a pharmacy, is just one indication of a pervasive promotion – becoming increasingly conspicuous in the first half of the twentieth century – of foods both to maintain health and to treat symptoms such as weakness, tiredness, sleeplessness, nervousness, the run-down feeling and many more.[14] I can only offer a few glimpses of the vast array of products. Particularly conspicuous were breakfast cereals pioneered by health reformer John Harvey Kellogg (1852-1943), who promoted a life-style of 'hygienic' practices such as vegetarianism, abstinence from alcohol, quelling sexual desires and much more. His first cereal, Granola – introduced in the 1870s – was quickly followed by a host of flaked, toasted and other prepared grains manufactured by Kellogg and his competitors. Intensive advertising reached Newfoundland as elsewhere, but Newfoundlanders read mostly about Grape-Nuts during the early 1900s, not only as a nourishing food, but also for specific health issues. In 1907, it was said to meet the 'requirements of tissue-repair, [and to be] a powerful source of vital energy. It contains the vital phosphorus stored up in wheat and barley by nature ... it also quietly, systematically builds up brain and nerve.'[15]

By the 1930s, while treatment claims for cereals and other breakfast foods were very much tempered, the attention given to weakness and malnutrition was sustained by various preparations. Thus Cream of Wheat proclaimed to Newfoundlanders, 'Malnutrition lurks behind many childhood ailments.'[16]

I turn now to brown bread, a special issue for many islanders in the 1930s with efforts to establish the use of brown over white flour. The time was very much a low point for the colony. On 16 February 1934, in order to avoid bankruptcy during the Depression, self-government was suspended and gave way to a Commission of Government appointed in Britain. Although social reform was not the mandate of the Commission, this clearly had to happen if the island was ever to become self-supporting again. One reform was a programme – already in the pipeline before Commission government was established – to supply brown flour to those on poor relief (rather than the white flour as was being done) with the hope of improving nutrition and particularly in overcoming the vitamin deficiency disease beriberi.[17]

This government programme met resistance – brown rather than white bread, for instance, reinforced a second-class status – though for many years reformers had promoted brown flour, and various wholesalers and bakeries marketed its healthful properties. For instance, in 1932, under the heading 'No More Indigestion,' Newfoundlanders were told that barrels and bags could be purchased 'for your health' by eating and enjoying 'delicious Brown Bread made from Quaker 100 p.c. Whole Wheat Flour.'[18] In other advertisements the same flour was described as a 'Natural Tonic,' while Walsh's Brown Bread was advertised in 1937 as

> 'body-building ... Would you be strong and virile, able to walk 40 miles on occasion, do a hard day's work without tiring. You can do it, ask some of your husky friends for their secret. 10 to 1 the answer will be BROWN BREAD.'[19]

Children/ invalid foods/ dietetic/nutritive drinks

If the promotion of cereals and brown flour as health products was conspicuous during much of the early decades of the twentieth century, the same applies to 'foods' for infants, children and invalids. Leaving aside artificial milk for babies, the promotion of both milk-based and meat-based products, directly or indirectly, focused on building strength. Ovaltine, for instance – 'scientifically prepared from malt, milk and eggs' and providing 'every necessary nutritive

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element' – was commonly advertised as a Tonic Food Beverage [to build-up] Brain, Nerve and Body.[20]

Beef extracts were probably equally popular among adults for their strength-building reputation. Beef tea, often made at home, competed with a range of commercial preparations. In the early 1900s Newfoundlanders could often read about Armour's Extract of Beef with 'a rich beefy flavor.' It was promoted for 'Nervous and Tired People [who] will find the mildly stimulating effect of a cup of Beef Tea [made, of course, with Armour's] restores the spirits, strength and energy without disagreeable after effects.'[21] However, Bovril – a meat juice extracted so as to retain the 'fibrin gelatin and coagulable albumin' – with its remarkable 'body-building powers,' was much more intensively promoted in the island. Newfoundlanders could certainly resonate with 1902 advertising that stated:

> In Damp and Chilly Weather a cup of hot Bovril erects a fortification in the system that bids defiance to the inclemencies and keeps out the diseases that follow in their wake.[22]

Later advertisements (1930s) were in similar vein, albeit less specific:

> Keep fit on Bovril. Bovril stands supreme as the great supporter of the people's health. BOVRIL Gives Fitness.[23]

I now ask whether physicians encouraged the use of the same or similar preparations, thereby adding their authority to worries over weakness. It was indicated around 1850 that physicians – at least in the U.S. – were taking little interest in dietetic preparations for the sick.[24] However, this had changed by the early 1900s in part because of the emergence of a new 'scientific nutrition,' which brought with it specialist textbooks for physicians, chapters in general textbooks of therapeutics, and information in the handy compendia regularly used by physicians and pharmacists in Newfoundland such as Martindale's *The Extra Pharmacopoeia.* In Newfoundland, too, the particular issues over poor nutrition and tuberculosis may well have made physicians more receptive to the bombardment of health food advertisements in medical journals that covered many of the same or similar products promoted directly to Newfoundlanders. For instance there were: Bovril and the unseasoned 'Invalid Bovril'; Möller's Hydroxyl Free Cod Liver Oil (for 'all wasting diseases, rickets, tuberculosis, the most reliable restorative'); Wincarnis ('a delicious and nourishing wine tonic,' said to be 'a scientific preparation of choice wine, extract of meat and extract of malt'); and Diamalt with Cod Liver Oil; Miol ('the most scientific nutritive food for general use').[25]

I should add that cod liver oil, viewed as both a food or medicine, had become the best-known tonic in the island by 1900 for all weaknesses. Although fishing families commonly had their own supply (a barrel of rotting livers with the oil rising to the top of the horrible smelling liquid goo), commercial preparations of 'pure' much less obnoxious oil found a ready market.

Although physicians wrote relatively few prescriptions for health foods (aside from malt and cod liver oil, and Virol for children), there is no doubt that they and pharmacists often encouraged the use of such products to supplement prescriptions.

Tonics

Of the countless products promoted for general weakness, or, more specifically, for say 'weak nerves' or 'weak hearts,' tonics were ubiquitous. In straddling both over-the-counter medicines and physicians' prescriptions, they formed an eclectic group of preparations that, to quote an 1896 standard medical textbook

> improve appetite, digestion, assimilation, and secretion, strengthen the circulatory apparatus, improve the composition of the blood, invigorate the muscular system, and promote the nutrition of nerve-centres and fibres.[26]

In offering a few notes on tonics – home-made, over-the-counter, and prescription – used in Newfoundland, I notice first spring tonics, many of which were viewed as blood purifiers. Although none were specific to Newfoundland, lay interest probably persisted more widely and longer in the island than elsewhere in North America and Britain. Relevant, perhaps, were harsh winter weather, the often inclement springtime, and matters of diet. It was, after all, reported in 1921 that the 'first seasonal signs of the effect of restricted diet appeared at the end of March and beginning of April. ... A sudden increase in nervous instability is evident at this season.'[27] Alongside such home-prepared items as sulphur and molasses, and teas made from pine, juniper and wild cherry, a variety of commercial preparations competed. Of these, I will only note the following 1925 advertisement from a well-known Newfoundland pharmacy:

> Now that to all appearances we are to have an early spring, and it is the time when one does not feel quite alright a bottle of any of the following will pick you up very quickly.
>
> - Wampole's Extract of C.L.O. [a restorative, fortifier] – $1.20
> - Compound Sarsaparilla [blood purifier] – $1.00
> - Quinine Iron Tonic [a bitter tonic] – .50
> - Compound Hypophosphites [a tonic] – 50c and $1.00
>
> From the McMurdo Drugstore[28]

Tuberculosis (consumption) Tonics were not only promoted for non-specific weakness and lack of energy, but also for specific medical conditions where these were cardinal symptoms. Above all, the tuberculosis scourge in Newfoundland encouraged the use of many tonics amid countless other treatments.[29]

Over-the-counter treatments or preventatives competed with home-made remedies, at least before public advertising of treatments for tuberculosis was banned. Of the many commercial preparations of cod

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liver oil, 'Park's Perfect Emulsion' with 'Hypophosphites of Lime and Soda and Guaiacol' was a notable example. A 1902 advertisement went:

> You may have consumption very badly, but your chances for recovery are good if you use a remedy that will nourish your body, reconstruct your wasted tissues, and destroy the principle of the disease.[30]

Many advertisers suggest that the relatively new germ theory was helping to focus attention not so much on weakness, but on building up strength – to combat the germs – irrespective of whether the body (or body part) was already weak or not. Some manufacturers also placed emphasis on attacking the germs – a trend that blossomed in the 1930s and '40s with the introduction of sulphonamides and antibiotics.

One particular 'tonic', Ferrozone, is of particular interest in the context of strengthening the body. A sugar-coated iron preparation of ferrous vanadate was one of the most intensively advertised iron products in Newfoundland during the first four decades of the twentieth century, with a variety of captions and slogans such as 'Makes the weak strong, the sick well,' 'Weakness Foe of the Aged,' 'Ferrozone for Bracing Health,' 'That Pale Tired Girl,' and 'A Wonderful Tonic and Strengthener.' However, some advertising made clear the need to strengthen the body against germs. Thus in 1905:

HOW TO GET CONSUMPTION

> Ninety per cent of the 'lungers' contract consumption by allowing power of resistance to fall so low that a favorable condition for the development of the bacilli is provided. In a healthy system consumption can't take root. But where there is weakness and debility, there you find tuberculosis. For developing strength and building up the weak, nothing equals Ferrozone.[31]

Chlorosis and anaemia Ferrozone, just one of the innumerable iron tonics on the market, brings me to two other conditions, chlorosis and anaemia, which are central to the weakness story. Chlorosis, which was increasingly pushed aside as a diagnostic label after the 1920s, is a condition that has fascinated and vexed historians for some time. William Osler in 1892 described it as 'an essential anaemia met with chiefly in young girls, characterized by a marked relative diminution of the haemoglobin.'[32] However, making the diagnosis in girls or young women dependent on measuring haemoglobin concentrations in the laboratory (as was happening at the time), rather than relying solely on clinical data, encouraged the view – as increasingly followed by physicians around 1900 – to believe that administering iron was all that was needed for treatment. Successful results, then, became part of the diagnosis, in consequence of which chlorosis and anaemia were increasingly seen as the same condition. Others, for a while, held to the view that chlorosis arose from the failure of women to adjust to the increasing pace and character of modern society, and that treatment had to include rest, exercise, regulating the diet and bowels and more – what was often viewed as moral management.[33]

I won't discuss how Newfoundlanders were 'educated' into the acceptance of anemia and chlorosis as one condition, except to say that this was encouraged by the disappearance of the term from various newspaper advertisements. Thus by 1905 advertisements such as for Dr. Williams' Pink Pills (reported to contain ferrous sulphate)[34] referred to 'wasting anaemia' only, but said it was a 'trouble that afflicts thousands of young girls – of course cured by Dr. Williams' Pink Pills.'[35] Unfortunately, I cannot elaborate on changing attitudes to chlorosis and its treatment – shaped by social considerations that included women's emancipation – for it provides a superb example of how diagnosis and treatment can be shaped by social forces.[36]

By the 1930s, although the tone of most advertisements for iron was relatively non-specific, emphasis on weakness remained prominent. Thus Ferrozone, for instance, continued to be a 'blood maker,' and 'to get back strength' and to 'overcome weakening diseases'.[37]

Physicians and tonics Did physicians reinforce the use of tonics in the early decades of the twentieth century? The answer is 'Yes'. Their most frequent prescriptions were based on iron and on phosphorus, the two often combined and sometimes compounded with arsenic and strychnine.[38] Although many prescriptions were for women, it is not clear that they were all for anaemia, for the tonic action of iron was considered not only to improve the blood, but also 'the functions of various organs.'

One of the commonest prescriptions in Newfoundland, up to the 1930s or so, was undoubtedly Easton's Syrup (Syrup of Iron Phosphate with Quinine and Strychnine), which acquired a particular reputation as a general tonic to be given in cases of general weakness or debility and nervousness.

Physicians sometimes bolstered Easton's Syrup, especially in prescriptions for women, by adding other phosphorus or iron preparations such as Iron Phosphate Compound (containing the phosphates of iron, calcium, sodium and potassium), or phospholecithin, a preparation recommended more specifically for exhausted nerves. Some physicians, too, prescribed cod liver oil, or malt and cod liver oil to be taken with Easton's – a double tonic as it were.

The just mentioned Iron Phosphate Compound, often prescribed alone – in pharmaceutical Latin of course – by Newfoundland physicians, was, in fact, popular with the public as a general tonic – albeit known as over-the-counter Parrish's Chemical Food. A good example of common ground between professional and lay medicine, countless brands were marketed by companies as well as by individual pharmacies. There were at least three Newfoundland brands, each with different information on the label,

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raising questions about the quality of professional services which cannot be considered here.

Social validation and symptom cascades

It is not possible here to continue the saga of preparations that circulated around weakness and restoration, for which other categories are nerves, kidney medicines, female remedies as well as beers and fortified and tonic wines. The sheer numbers of the preparations (to which one must add analogous physicians' prescriptions) all focusing, in some way or another on weakness, do much to strengthen my argument about social acceptance and validation. Unfortunately, too, I cannot consider the contribution to social validation from the promotion of fitness by the body builders like Bernarr Macfadden and Charles Atlas. Hints of its relevance, however, include such advertisements in Newfoundland for, say, the 'Loop Developer' for 'Health and Strength.' As advertised in 1910, this loop, used by the Territorial Army, was apparently for developing arm strength.[39]

What I must mention, however, is the seemingly endless shopping list of conditions that, in fact, embrace a 'cascade' of medical problems which could be prevented or treated. Such lists with 'cure-all' claims and secret formulae prompted much vigorous contemporary outrage – much of which is unquestionably justified – which ultimately led to legislative controls on the promotion of over-the-counter medicines.[40] On the other hand, many people must have seen in numerous advertisements a logical cascade of troubles that flowed naturally from one to the other.

This cascade can be readily seen in a category of medicines seemingly unrelated to the weakness story, but, in fact, very relevant. Advertisements for digestives and laxatives often indicate or imply that a sluggish intestine or liver and/or constipation led to poor absorption of nutrients, and then to poor blood, to weak nerves, to bad breath, to headaches, indeed, to general weakness. Alternatively, such a cascade was rationalized on the basis of widely held theories in conventional medicine, most notably autointoxication, or poisons entering the blood stream from the intestine. This sense of connections and consequences can be seen in other areas of nineteenth-century therapies, though I cannot explore these here.

My point is that despite the bandwagon of medical and lay criticism of countless over-the-counter medicines, they continued to hold a logical, almost intuitive, appeal to many, not to mention hope.

I want to raise another matter in relation to the cascades of symptoms. I suggest that they fall in line with seeing the body as an integrated whole (certainly a way of rationalizing the actions of certain tonics.) It was, too, a time when the psychological component of illnesses like neurasthenia and nervous dyspepsia was well appreciated, when some physicians encouraged constitutional care (the individual behind the disease), and when prescriptions were still being tailored, at least to some extent, to a patient's individualized needs. Without saying that these features of early twentieth-century therapy were consciously recognized at the time, they take us back to Guenter Risse's quotation[1] – at least the holism part – that there is 'a perennial yearning for individuality and holism in therapy.' It was, at the time, however, a medical world in which the emphasis on treating organs or systems with disease specific drugs – often prescribed by one of growing numbers of medical specialists – was increasing and shifting therapy further away from meeting such yearnings.

PART II: Social validation and complementary/alternative medicine (CAM)

I wanted in Part I to lay out clearly the notion of social validation with an example of a wide range of treatments all directed toward a spectrum of symptoms that centred on weakness. In turn, this along with other factors, served to validate weakness as being a highly significant self-care issue. Furthermore, although there was a real sense that, despite the accelerating trends within medicine toward treating specific organs, physiological systems and germs, lay beliefs continued to reflect views that the body was a unitary whole. In such a context, the lengthy shopping lists of uses of over-the-counter medicines, particularly up to the 1930s, that we so quickly criticise nowadays, can be seen in a different light.

While I suggest that Newfoundlanders in general must have been caught up with the notion of weakness, its overall impact is not easy to ascertain, despite being seemingly bound up with a preoccupation in the island with such social issues as inadequate nutrition. What needs to be explored is whether the strong sense of individuality in the island and hard lives associated with the fishery often pushed aside notions of weakness. Perhaps there is a paradox, but paradoxes are always part of the story of therapy.

In turning now to consider CAM and social acceptance, I want to say first that the level of interest and widespread usage justifies seeing it as a social movement. In itself this grass roots popularity seems to contribute to social validation. Surveys and reviews reveal a long list of reasons why a person says they use or have tried some form of complementary/alternative medicine.[41] Reasons include:

(i) Belief in the safety of 'natural' treatments, and perhaps miracles, then for easing symptoms if not a cure. Another way of putting this is that complementary/alternative medicines and practices 'don't hurt you and may help a bit.'

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(ii) Experience that a particular modality has been helpful.

(iii) The attractiveness of many complementary/alternative concepts because they are congruent with popular belief systems, for example, the need for balance in life, for spirituality, or to fulfill ethnic needs. In other words congruent with personal values.

(iv) The disquiet with various aspects of regular medicine ranging from the inadequacies of treatment for terminal and for chronic conditions ('doctor's medicines are not working') to side-effects of treatment and physicians' seemingly insensitive attitudes to patients.

(v) The desire for more personal control in health and illness whether it be for minor chronic problems or life-threatening situations. A belief that one has personal responsibilities in health and illness, making choices and monitoring one's own health. This may become particularly evident as a result of distress, perhaps depression, at the state of one's own health.

(vi) The need to reduce health-care costs (depending on insurance coverage or lack of it).

(vii) The belief that, in maintaining health, it is prudent to try out new health ideas, even if it is recognized that scientists disagree about effectiveness. Many people concerned with their health are curious about new ways and have the insurance to pay for their curiosity.

(viii) The importance patients attach to the length of office time alternative practitioners generally give to patients, as well as to their emphasis on health promotion.

(ix) The influence of testimonials from relatives, friends, health-food store personnel, and the Internet.

Various commentators add their own interpretations such as poor scientific literacy, anti-intellectualism, anti-scientific attitudes piggy backing on New Age mysticism, and vigorous marketing. All this tends to be judgmental and imply non-rational, non-critical thinking.

While each of the above reasons serves to explain the behaviour and attitudes of particular individuals, we have to look at them together as collective social acceptance, in much the same way that testimonials of members of a support group for CAM provide collective strength. One issue here is that, unlike my weakness example of validation, scientific support for most CAM practices is weak, at least in the context of the modern standards of evidence based medicine. In fact, the standards accepted by the public are more akin to those of the first half of the century, namely authority, experience, and particular interpretations of scientific theory and experiment, issues I cannot pursue here.

I must emphasise I am not claiming too close a kinship between present and past scenes, for the modern consumer movement has brought new levels of public knowledge and sophistication. However, I just wish to mention some loose parallels between the present scene and the weakness story. I note four of these, if only because history can help to sharpen our thinking about the present and what critical questions to ask.

(i) *Nutrition* Concern with nutrition as a path to fitness has long been driven by many factors. The Newfoundland story highlights various matters (e.g., opposition to brown flour despite authoritative statements about endemic poor nutrition) that serve as a reminder that socio-cultural as much as medical factors shape attitudes to nutritional supplementation. Today's use of nutraceuticals needs to be seen in terms of the history of attitudes to food.

(ii) *Purification and balance* Although notions of maintaining balance were not conspicuous in my Newfoundland story, they are implicit in the popular use of tonics and blood purification, reflective of persistent and widespread interest in the concept. The language of spring tonics and other products prominent in the early twentieth century is still current. For instance, a recent academic, rather than popular, book (published in 2000), *Complementary Therapies for Pregnancy and Childbirth*, supports the use of herbs with statements on, for example, the properties of spring tonics. They 'stimulate the liver, invigorate the digestion and thereby increase the body's vitality by promoting more effective assimilation and elimination.'[42] Additional social validation today of concepts of balance draws on, for example, traditional Chinese medicine, anthroposophical medicine, as well as conventional medicine when it talks of balancing brain chemicals with psychoactive drugs.

(iii) *Physician authority* The Newfoundland story reminds us very much to consider the validating role of physicians. Although current physician authority for complementary/alternative medicine is more patchy than my Newfoundland case history, in which many of the prescribed remedies were analogous to over-the-counter ones, physician usage of many complementary practices continues to grow and be an important authority. There is now much glee in the complementary medicine community that more and more medical schools are teaching it, a strong validating sign for many.

(iv) *Contemplating change* A significant aspect of the Newfoundland story is the shift in the 1930s in which the language of weakness took a secondary position to building strength and resisting and fighting disease. If we, and perhaps health-care policy makers in particular, are to be constantly vigilant about changing nuances in health care, then understanding subtle change is important. For instance, does a common language between complementary and conventional medicine – focusing on lifestyles, on patient-centred care, on preventive care, on environmental matters, and on calls for a clear place for spirituality (not necessarily organized religion) in health-care – suggest the emergence of a more permeable boundary and bring about 'incremental integration,' a term used in my earlier quote from Mike Saks?

Although my comments on the present scene are sketchy, I hope I have indicated enough to suggest that our understanding of current social attitudes can be helped by historical perspective as we try to understand

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(i) the way CAM is currently socially accepted and validated,

(ii) the dichotomies that exist between complementary and conventional practitioners, and

(iii) the various areas of miscommunication, and, in particular, why there is so much support for treatments for which there is no scientific data.

Comments on roles for pharmacists

And now to my comments on issues for pharmacy. Of course pharmacy has its own dichotomies. At the community level, just by selling natural health products, pharmacy contributes to validating various practices. This raises ethical issues that go back to concerns expressed by Jacob Bell whether the pharmacist, as a professional, should merely be an 'agent,' with the purchaser buying products on 'his own judgment, and at his own risk.'[43] On the other hand, at the academic level of pharmacy there are calls for 'appropriate evidence of efficacy,' scientific and clinical, before any support can be given – as indicated in the Royal Pharmaceutical Society's *Report on Complementary and Alternative Medicine to the House of Lords.*

Much of the above reflects long-standing schisms within retail pharmacy as to whether it is a trade or a profession. Should pharmacists sell nutraceuticals – now very much a commodity of 'big business' – if they know little about them? Should they sell homoeopathic products that violate the canons of classical homoeopathy? After all, pharmacy has been slow to develop a role for pharmacists as professional experts on all such products.

Although this lack of expertise remains an issue, there are signs of it being corrected by growing numbers of courses and books, such as the Royal Pharmaceutical Society's *Herbal Medicines: A Guide for Health-Care Professionals* (1996).[44] This book, with its formulaic approach to information – parts of herbs used, relevant pharmacopoeial monographs, constituents, food use, herbal use and so on – is an important and necessary educational tool. But such approaches must be only part of education. Equally important, especially with respect to the patient counselling and patient care advocated by the Society is to understand the attitudes and mindsets, the health beliefs, of users of CAM. There is a need to understand the differences between two cultures, two world views – those who wish to change their health to a 'better and more natural way' and those who believe that health-care must continue to rest on a scientific basis. We need to recognize that social validation allows many users of herbal and homoeopathic remedies to ignore the criticisms of physicians and scientists.

As we look to the near future, I see no immediate decline of interest in CAM as a whole, though interest in herbal medicine may be levelling off. However, I see increasing calls for advice. Who should I see about my stiff neck? A chiropractor? A physiotherapist? An acupuncturist? And, what about a herbal relaxant? As pharmacy still dances around pharmaceutical care, around more clinical involvement, I believe a great opportunity is being lost if pharmacists do not equip themselves to be formally recognized as consultants in CAM. Indeed, I believe many signs point to the need for consultants (whom I see to be more than just counsellors on side-effects and incompatibilities of herbs, etc.), all the more as we shift imperceptibly to integrated care. Such consultants will need to understand the nature of modern therapeutics (not merely therapies) in all its manifestations, much of which is understanding the role of social validation even where herbal active principles seemingly justify usage. This is illustrated by ginkgo promotion in Germany where ginkgo has already become a social force, not only because of widespread belief in its phytochemical efficacy, but also through such reinforcements as Goethe's poem and pop bands who refer to themselves as the Gingkos.[45]

In conclusion, pharmacists are clearly in an excellent position to take on a new professional role, one that could become a significant sustaining force for CAM through appropriate integration (probably not amalgamation) with conventional care. Although I see no immediate decline in interest in CAM, historians remind us that the future is not certain; already, there are distinct signs of change with perhaps a levelling-off of usage of herbs and growing calls for evidence-based care. I am not, of course, suggesting that all pharmacists move in the consultant direction, but the profession must consider how it can offer education – drawing on the social sciences and humanities, as well as the sciences – to those who wish to offer a service in ways that can make a unique contribution to health-care, and, surely, new opportunities for remuneration.

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Frame Food Diet

This Victorian advertisement (p.52) cites the case of a very sick child, suffering from 'Rickets, Inflammation of the Bowels and Convulsions'. Several well-known foods were tried, but none could be retained, and it was feared that nothing could save the young patient's life. Eventually, one doctor, apparently in desperation, suggested trying Frame Food Diet. This resulted in an immediate improvement, the convulsions ceased and, in a short time so did the vomiting. The results were remarkable for a food which analysis showed to be composed of 17.62% water, 13.69% protein, 0.44% fat, 22.33% soluble carbohydrates, 54.96% starch and 0.96% ash.[1] A note was added to say that it was not as rich in minerals as it was claimed to be. Another source observes that the starch is present in an unmodified form.[2] It would appear that no milk was used in its preparation, and so it could not be expected to be of much assistance in curing the rickets. It seems probable that both the child and the doctors existed only in the imagination of the advertiser.

We may smile at advertisements such as this, but are all the products that we see recommended so highly today really as beneficial as they are claimed to be? W.A. Jackson

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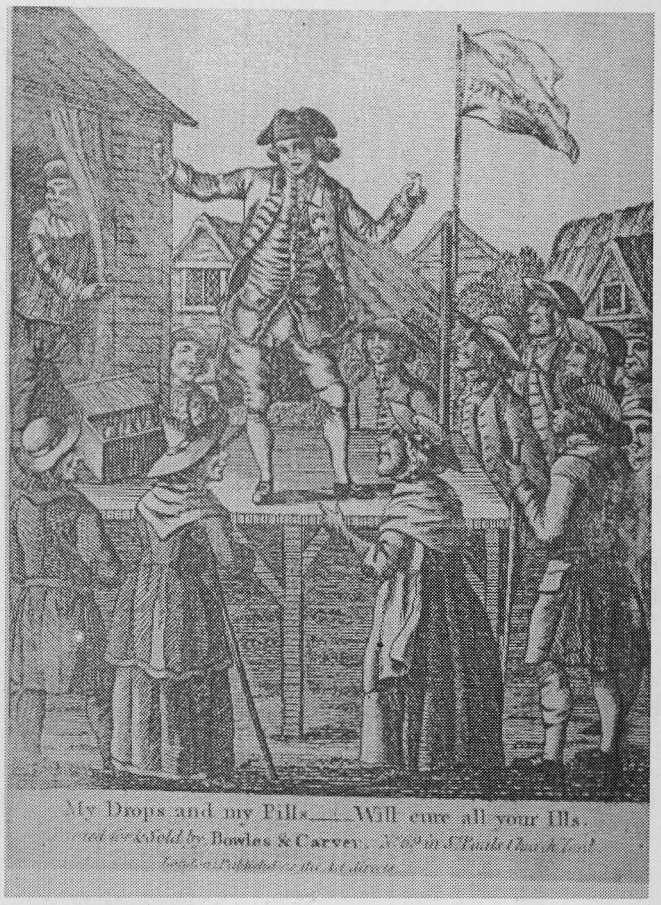
Museum of the Royal Pharmaceutical Society Postcards

Opposite: Travelling medicine seller 'Dr Drench' claims 'My drops and my pills - will cure all your ills'. Probably 18th century.

Below: The Penton Pharmacy, north London, 1920s.



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BSHP Conference visit to the Iceni Pharmacy, Bridewell Museum, Norwich 2001

Opposite: BSHP secretary Peter Homan at the counter.

Below: An appliance drawer.

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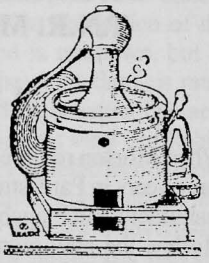

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Diary

Wednesday 6 February 2002
'The White Plague: Images of tuberculosis in the nineteenth century' by Dr Thomas Dormandy, retired consultant chest physician. At Lambeth.

Wednesday 13 March 2002
Foundation Lecture 'Researching the early history of Burroughs Wellcome' by Prof. Roy Church, professor of business history at Norwich. At Lambeth.

Friday 12 to Sunday 14 April 2002
Annual Spring Conference 2002
The Conference will be held at the St Mellon's Hotel near Cardiff. A visit to the new National Botanic Garden of Wales is planned. Further details will be circulated in 2002.

8 May 2002
'Opium in the Fens' by Dr T. Hunt.

13 November 2002
A Visit to the Society of Apothecaries

Review

Dutch transatlantic medicine trade in the eighteenth century under the cover of the West India Company.

Rutten, A.M.G., 2001. Rotterdam: Erasmus Publishing, pp. 168; 6 appendices, bibliography, 2 indexes (people and subjects). ISBN 90-5235-148-1. Paperback. Price 59.50 guilders.

The history of the Dutch transatlantic traffic in medicines has been largely forgotten, even though the records are well documented and to be found in the West India Company archive held at the Hague. This Company was granted the right to settle personnel, administer and if necessary defend the Dutch colonies on the west African and northern South American coasts, as well as the small islands of Bonaire, Curacao, and St. Eustatius close to the latter's coast.

The islands of the West Indies represent in miniature the competing world of the maritime powers, and one can not but wonder if the Netherlands had a far greater interest in its Far Eastern empire and East India Company known as the V.O.C. Like most companies formed in those days, whether French, Dutch or English, these trading organisations in the end suffered by trying to exclude all outsiders. This resulted in the trade of Curacao and St. Eustatius becoming largely clandestine but at the same time highly profitable.

The W.I.C. was primarily a commercial enterprise and had little interest in the medicinal use of the native plants to be found in the colonies. Medical attention was firmly based on current European ideas, but it is interesting that the author suggests it was more effective than is usually thought.

The book contains several long lists of the simples and compounded medicines which were required to be held in apothecaries' shops based on the Amsterdam Pharmacopoeia of 1686; but it was updated in 1726 and 1792 even though by then many of the drugs were obsolete. These drug lists are of particular interest to pharmaceutical historians as the history of the drug in question can then be followed through the centuries.

An interesting section deals with drugs from the New World and covers the medicinal uses to which they have been put. The book is of considerable interest and so it is a great pity that the English is so poor in parts that interpretation of the exact meaning is one of guesswork. It was a noble effort to endeavour to write this book in a language which is foreign to the author but it would have been wiser to have the assistance of someone who was truly bilingual. This is particularly unfortunate because the author has made a great effort to collect together his material and it is a pharmaceutical history of which most of us have little or no knowledge.

J.G.L. Burnby

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Fleet Market to Bloomsbury: T.N.R. Morson's Progress

A.F.P. Morson

When Morson returned to London in 1820 after almost three years in Paris studying chemistry and supervising manufacture in Planche's laboratory, he rejoined Henry Morley, the new owner of the business, at the same premises in Fleet Market to which he had originally been apprenticed.

There had been important changes while he was away. The fraught atmosphere following the end of the Napoleonic Wars had given way to a calmer one. The Seditious Meetings Act, which had threatened the existence of the City Philosophical Society which had nurtured Morson's scientific ambition, had been administered less harshly. The whipping of women as a punishment had been discontinued. Economic progress was being made and this created some confidence in the future.

Living in London had changed too. Fleet Market, in common with much of the City, was black with soot, and that would barely change until the Smoke Nuisance Act of 1853 was given time to take effect. The untidiness, however, was the result of the Market's deterioration from its fashionable past to a state of neglect. The rubbish from the food market was now left in piles at the riverside and the fashionable women were replaced by tarts openly plying their trade, sometimes helped by spurious parsons willing to conduct 'marriages' to last as long as the seaman/bridegroom was in port.

Morson was able to make comparisons with Paris, where he had seen the effects of Napoleon's long years of war and of the slaughter of French manhood. He had found few parts of the city other than filthy and the poverty dreadful. His employer, Louis Antoine Planche (1776-1840), a pharmacist and successful manufacturing chemist, lived in what he described as 'a miserable way'. Berzelius, who was in Paris at the same time, said that the French had no idea about heating their houses, adding that their big tiled stoves 'make just about as much difference as a twig in hell'.[1]

However altered his surroundings were, Morson straightaway set about making an impact. He had brought from Paris his process for extracting quinine from cinchona bark. He published a paper[2] describing this process within weeks of reaching London. Only those few who knew what Pelletier and Caventou had achieved would have realised the changes which medicine would experience in the next few years. The news of Morson's work spread quickly, helped by Copeland, editor of the *London Medical Repository*, who endorsed Morson's paper with a definite recommendation. Copeland had experienced fever in West Africa.

Quinine pills were recognised as a radical improvement, welcomed by nearly everyone and they were in great demand within weeks. For commercial reasons, it was necessary to market quinine before Pelletier started selling in London. He was an aggressive salesman with far greater resources than Morson's. Fortunately, the technical paper and the ready availability made the right impact. The medical journals publicised all the relevant details and endorsements followed from eminent physicians like Elliotson and Roots.

Barely 21 years old, Morson was astute enough to realise that he should maintain his position as sole supplier for as long as possible. Hearing that Alexander Low[3] had sent his brother from Jersey to Liverpool to sell all the quinine he had made, Morson went to buy it up. It was much inferior to his own product, another reason to remove it from a new market.

A journey to Liverpool in the 1820s was a major undertaking. Travelling in a coach for hours on end was uncomfortable and occasionally dangerous, especially when the coachman decided to race a rival. Collisions and crashes were not unknown. The discomfort apart, I hope that Morson was as observant as he had been during his journey to Paris when he recorded many interesting details. He was travelling through England at a time when the countryside was silent and had never appeared so beautiful, according to contemporary writers. The steam engine would shatter that peace within twenty years.

I suppose that the reconstruction of a past world is impossible but identifying small pointers can help. The amusingly named John Thomas Smith, who wrote *A book for a rainy day* in the late 18th century, was fascinated by the strange people who made a living in the streets of London. These vagabonds were unpopular with those who welcomed the Vagrancy Acts of 1822/4 but street sellers and other less welcome people still filled the streets. One woman still searched London in the early morning to pull out the teeth of dead dogs which had been stolen or killed for their skins. She sold their teeth to bookbinders, carvers and gilders as burnishing tools. London in the early 19th century was rough, noisy and smelly, in complete contrast to the countryside.

Morson knew that life was tough. He had experienced the deaths of all his family and his apprentice master by the time he was eighteen. Death and disaster were common occurrences in those times, but nobody could afford to do other than press on. It was sink or swim. Hopefully the bereaved were supported by friends. Certainly, Morson had two close friends and was helped by older men like Richard Phillips, Michael Faraday and Richard Solly. Their help was crucial, but given to an enthusiastic and hard-working young man. Nor must his mother's wise decision to apprentice him to an apothecary be overlooked. It was an occupation with potential, and chemists and druggists were about to exploit their part to the full.

Morson's education had been quite good but there were gaps familiar to all who study technical subjects.

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One is revealed by the spelling in his diary.[4] He records visiting 'tooms' in Paris, a 'chapple' in Canterbury, and 'desections' at a Parisian hospital.

The industrial and political revolution of the 19th century was beginning to gather pace at the time of Morson's return to London. It was a time of opportunity and it needed to be grasped firmly. His introduction of the alkaloids, of greater skill in 'chemical manipulation' in order to increase purity, now measurable by analytical methods, allied with his knowledge of scientific progress on the continent, enabled him to make a contribution to the advance of medicine. His new products ranged from the inorganics like bismuth carbonate (nowadays out of favour, although those of my age recall the relief we obtained from products in which it was included) to creosote, a major product from the 1830's until 1950, and chloroform, whose quality was the subject of so much discussion, and to which he contributed technically and in terms of the volume of his production.

A pointer to one of the reasons for Morson's reputation both then and subsequently is the list of dates when he and his rivals commenced quinine manufacture. He started with quinine in 1821, only months after Pelletier; Howards started in 1837. The Apothecaries' Company was only in production for a short time about 1823. D'Ailly in the Netherlands closed down after about a year in favour of a German maker in 1826. Alexander Low was another whose attempt was short-lived.Were there technical reasons for Morson surviving these competitors? The Society of Apothecaries made heavy weather of the process. Extraction techniques were new. Low used the less absorbent animal charcoal rather than wood charcoal. The French and British journals made occasional reference to quality, which was judged mainly by whiteness. Morson's product was 'uniformly' white according to the more important of his customers, and we know that Low's brother was critical of Alexander's grey quinine. I have not mentioned the quinine made in Philadelphia at this time because none reached this country as far as we know, but they were in production in 1825. The real competition came from Pelletier, whose agent in London was Horner, both men of commercial flair. In Germany, Merck, Koch and Riedel started up in the 1830s. Thus Morson was the first man outside Paris to make commercial quantities — a feather in the cap of a twenty-year-old.

This was part of the medical revolution. sparked off by the discovery of the alkaloids. It was exploited by pharmacists and changed the way patients were to take their medicine. It was no longer necessary to swallow a suspension of bark in water and port and in half-pint quantities, tasting awful, in order to ingest an effective dose. It had sometimes resulted in death when the patient was ill with fever. Now there was a palatable alternative in what Morson called an 'elegant preparation'.

This fact made the arrival of quinine pills an instant success. By the 1850s, England and Scotland were consuming nearly all the 120 000 lbs [54 432 kg] of quinine made from imported bark, plus 9000 ounces [255 kg] of quinine sulphate. What proportion of the imported bark Morson processed is unknown, but as the only English producer in the early days, it must have been the majority. This was substantial business and at the prices then obtainable was very profitable. These profits and his wife's legacy enabled him to move to Bloomsbury, where he installed good production facilities. He also had a shop in a location advertising his new status which was also his home. His standard of living rose and he found many new friends among the doctors, scientists and academics at the British Museum. The records of his account at the Bank of England reveal that his balances varied somewhat less than would be expected from the economic cycles of the 19th century. The fact that he was accepted as a customer is significant for his financial standing and benefited him in avoiding the problems arising from the failures of other banks, which were not infrequent at this time.

During the 1840s he lost substantial business to Howards and did not seem to make the effort to retain his position as first in the field. He had done well for twenty years and continued trading for another 15 years, but manufacture ceased in the 1860s. One can only guess that other products were absorbing his attention. He had become the largest manufacturer of potassium iodide and continued with resubliming iodine; bismuth salts were a major line from the 1840s; creosote was being produced in ever larger volumes and he had started the development of pepsin.

Morson's reputation[5] with his colleagues resulted in his being approached in 1840 to join the group which was trying to organise pharmacy into a profession. This was perhaps partly caused by his evidence in 1834 to the House of Commons Committee on Medical Education. Sadly, his and others' evidence was destroyed when the House of Commons burned down. He took some persuading. His reluctance was probably due to his business and scientific interests being more important to him.

Such evidence as we have suggests that Morson was not very outgoing. *The Forceps* wrote of him in 1844 'you will find him ensconced in some retired corner discussing knotty points'.[6] His interests were scientific, science being then a single subject, not divided into highly specialised topics. So when Morson was arranging his Sunday scientific meetings, he included men from a wide circle, including German and French scientists. The move to Bloomsbury opened up his social life. These Sunday occasions were made more enjoyable by Charlotte, his wife, who was an accomplished hostess. They were enlightened parents, giving a good education to all their children. The two elder girls were subscribing members of the Royal Institution in 1839. The Liverpool chemist, John Abraham stayed with them, writing afterwards of the 'elegant hospitality' he had received at Queen Square. Morson moved there in 1850. The house provided him with space for a

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laboratory and a library for his books, as well as a spacious sitting room overlooking the garden.

It is a pity he was a poor correspondent; we might otherwise have a better idea of his life and of his relations with his colleagues. There is no doubt he was popular or he would not have topped the poll in several elections to Council. But there are no extant letters to friends or colleagues. The only clue to his being a poor correspondent is in a letter from a friend in Brighton: 'you, an influential man, are stingy with news of London's scientific and artistic life; could you not spare a few crumbs from your table?' However, he had an active social life.

In the 1830s, the site at Hornsey was not only the alkaloid factory but a country cottage to which the family went for what became known to them and their friends as Hornsey expeditions. The garden provided plenty of space and there was also the medicinal and herb garden which occupied more than ¼ acre.

The first of Morson's two periods as President of the Pharmaceutical Society was in 1848, although he had been acting in Savory's frequent absences. He held a presidential reception in June. Those attending were asked to 'sign in' and their names showed how wide were his interests in science and the arts. It also gives us an impression of his status as a 'scientific man', as Daniel Hanbury wrote at the time. Dr Roots wrote of his 'love for the advancement of science'. We need to remind ourselves that early 19th century science was a minority interest and that these men needed to convince others of its benefits. The attendance at the reception included all those who had supported Morson's applications for membership of the English scientific societies of which he was a member, in some cases by invitation. These included the Medico-chirurgical Society in the early 1820s — it is now the Royal Society of Medicine; the Royal Institution; and the Royal Society of Arts. This latter interest lasted all his life, starting in 1825 with his membership of its Chemical Committee; he joined at Faraday's suggestion when a number of City Philosophical Society members such as Hennell, Solly and Cornelius Varley were persuaded to do the same.

In the party was Thomas Bell, the Secretary of the Royal Society. A dental surgeon, he would soon start a no less than eight year stint as President of the Linnean Society. He promoted Morson's membership in this same year. They had met some years earlier at the Zoological Society. This was perhaps the circumstance which led Morson to have a pet marmoset whose visits to the Society's house in Bloomsbury Square caused amusement and probably a little chaos at times.

Bennett, Secretary of the Linnean Society and one of Morson's closest friends, was there together with the famous Robert Brown and the Secretary of the Royal Institution. It is not surprising that Pereira was in the company: his interest in the Society and in teaching are well documented. Interestingly, John Snow the epidemiologist came. Only a few weeks later, he would publish his findings on the spread of cholera: it earned him international renown. London had a serious cholera epidemic in 1848. There was no effective way of combating this scourge, though Snow recommended morphine and creosote tablets in a paper to the Medical Society of London. From 54 deaths in the first week of November 1848, the death rate rose to 2026 eleven months later. In the last three months of 1849, no less than 12,847 died. It was not until fifty years later that London had safe water supplies from reservoirs, which eliminated the disease. This connection between health and hygiene was a major talking point.

A famous botanist was another guest. Nathaniel Wallich,[7] who was working in London with Robert Brown, had returned from India, where he had been since 1815. Wallich was a Dane who had been in their East Indian Settlement at the time it was 'taken possession of' by the English, who offered him the post of Superintendant of the Calcutta Botanic Garden. He caused it to become world-renowned. He was a friend of John Forbes Royle, an honorary member of the Pharmaceutical Society. Royle's work led to the planting of cinchona trees in Eastern India in 1860 and stimulated the growing of tea in Assam. Wallich commemorated Royle by naming after him a genus of plants which he had brought from India: *Roylea*. Perhaps more relevant for us, among the 8000 specimens Wallich distributed to the Kew and Edinburgh Botanic Gardens were *Geranium* species, *Euphorbia* and a poppy, *Meconopsis napaulensis*, which grace our gardens today.

With men of such a variety of experience, this Reception was an interesting and notable occasion for all the Council members. Many chemists were present, including Alfred Bird of custard fame and Morson's apprentices, Hopkin and Williams; the latter was to become president of the Society. Both May and Baker were there and also James Bell, Jacob's brother. An absentee was Fownes, the professor of chemistry at Bloomsbury Square. He was too ill to attend. He had returned in January from Barbados where he had gone in the hope of curing his tuberculosis. There was no real improvement and he died a year later. Morson had worked with Fownes on furfurol, leading to Fownes' synthesis of furfurine, the first attempt at the synthesis of an alkaloid. The two of them had hoped that the creation of a school of chemistry at the Pharmaceutical Society would raise the quality of the teaching of chemistry and pharmacy and thus enhance its scientific reputation. Morson's hopes were dashed because Fownes was not replaced.

The presence of 250 or more men, a significant minority of whom were very eminent, marked this occasion as an important one for the prestige of the young Society, which needed to demonstrate the importance of pharmacy as a profession both to its membership and to the rest of the medical profession.

The Germans and French had succeeded in creating a higher profile for their profession. English pharmacy

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had developed differently; its chemist and druggist roots were very strong. It is another aspect of the differences on either side of the English Channel that we celebrate our scientists in a low key, sometimes not at all. There are public memorials in France to their scientific heroes. Travelling in Normandy two years ago, I was interested to see an imposing statue to Laplace, the French Newton, in his home village. At a minor crossroads near Pont l'Eveque, there is a bust on a small marble column of Vauquelin, the discoverer of chromium, but more important to our subject, an ardent promoter of chemical analysis, which was a very topical subject in Paris in the 1820s.

By contrast, Perkin, the discoverer of aniline dyes in 1856, had no memorial and little recognition until 1906. When one recalls that his skill created new industries and led to major contributions to medicine and photography, it is disappointing that his achievement was ignored for so long.

Morson was lucky that he was encouraged by a number of people whose influence on his choice of career was vital. At a time when it was usual to follow in a father's footsteps, there was a complete absence of family tradition in his case. However, it may be that the freedom from any obligation to meet the expectations of parents provided him with an opportunity. He was able to strike out on his own. This was an age in which everyone was expected to pay his way. Samuel Smiles' handbook to success may have been popular — it sold 20,000 copies in its first year — but it was the articulation of contemporary attitudes and did not create them.

The major worry at this time was failure. In an age when hectic booms alternated with financial panic and there was no such thing as limited liability, people were haunted by the spectre of bankruptcy and the debtor's gaol.[8] The *British Medical Journal* drew attention to the result. There was a noticeable increase of heart disease from the early 1850s. They referred to the 'hurrying pace' and the fear of financial failure leading to a loss of status. Several of the Society's Council found this 'pace' hard to bear. They led extraordinarily busy lives. They had their businesses to run and took part in scientific societies. Many did unpaid work. Morson was a Director of the Poor, responsible for distributing funds raised by property taxes. He was far from the only one among his colleagues to work for their communities.

By the nature of their occupation, they were in touch with their local circumstances. So they were in a good position to notice the connection between disease and bad hygiene, an aspect of 19th century life which was part of the horror of the Industrial Revolution. These were matters of much concern and discussion, but took a long time to correct.

It would add to our understanding if we knew more of the private lives of the early members of the Society. There does not seem to be much material dealing with them as human beings. One reason may be the reluctance that Victorians had for what they called 'entering other's private lives'. In the case of pharmacists it may be connected with their always dealing with material things. John Hanbury once mused that he wished the lives of pharmacists, however eccentric, could be exposed with their foibles, virtues and vices. The leading members of the early society were successful businessmen drawn from the Victorian middle class in a free-wheeling and confident society. They were strong personalities who debated some issues vigorously and, especially when men like Dickenson took part, Council meetings became argumentative and lengthy. They were from a variety of backgrounds. Bell was a rich man who could afford to indulge his tastes in art besides using his wealth to support the campaign for the recognition of pharmacy as a profession. Savory inherited a successful business and owned three houses, two in London and a large property in the country. Macfarlan came from an Edinburgh family who were comfortably off. Others were running businesses that had long histories and were now in a position to exploit Victorian trading conditions to expand them. All of them typified what Roy Porter[9] has called 'the English ideology which promoted refined hedonism and enlightened self-interest within consumer capitalism'.

Morson's success had made him well-off, although he lived over the shop for twenty-five years in common with most other small business owners. He moved to Queen Square in 1850. A visitor would have noticed that his new home lacked the characteristic and pleasant smell of vegetable drugs, which he left behind in Southampton Row. But he was in a peaceful haven away from the bustle and noise of Holborn.

One hobby that was shared by some of these men was an interest in collecting art, the initiative for which had passed from the aristocracy to the rising middle classes with one important change: the size and subject matter of the paintings. These new patrons bought the works of contemporary artists, the pictures representing home and family, on smaller canvases to hang on the walls of their smaller houses. Few Victorian paintings showed workers in a factory. William Muller's watercolour of Morson's alkaloid factory at Hornsey is all the more interesting for being of a technical process, including a worker clad in protective clothing.

On his arrival in Bloomsbury, Morson published his first catalogue.[10] It covered the whole range of pharmaceutical items then in use, including a number of less technical products of both English and French origin. He drew attention to his ability to supply all the new alkaloids and inorganic chemicals to high standards of purity, together, as he put it, with their doses so far as currently known. Finally he offered to supply laboratory chemicals to those who experimented at home.

That was an early landmark in his career. He maintained his reputation for innovation both chemically and pharmaceutically over a long time. Pepsin is an example, where he made a purer extract than anyone else by using pigs' stomachs, in contrast to the French and Germans who used the rennet bags of sheep to make a product described by some as tasting

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disgusting. Morson created a palatable formulation for his customers' convenience and one that could be carried in the pocket even in the humid climate of places like India. They rewarded his firm by continuing to buy it for nearly seventy years. This was how he, and there were parallel examples among his contemporaries, made a contribution to the advancement of science and progress in business.

Their success is evidence that it was the professional middle class that stimulated much of the progress in Victorian times. Morson's part in this started in Fleet Market and finished in Bloomsbury.

This paper was read at the BSHP Spring Conference, Norwich, April 2001.

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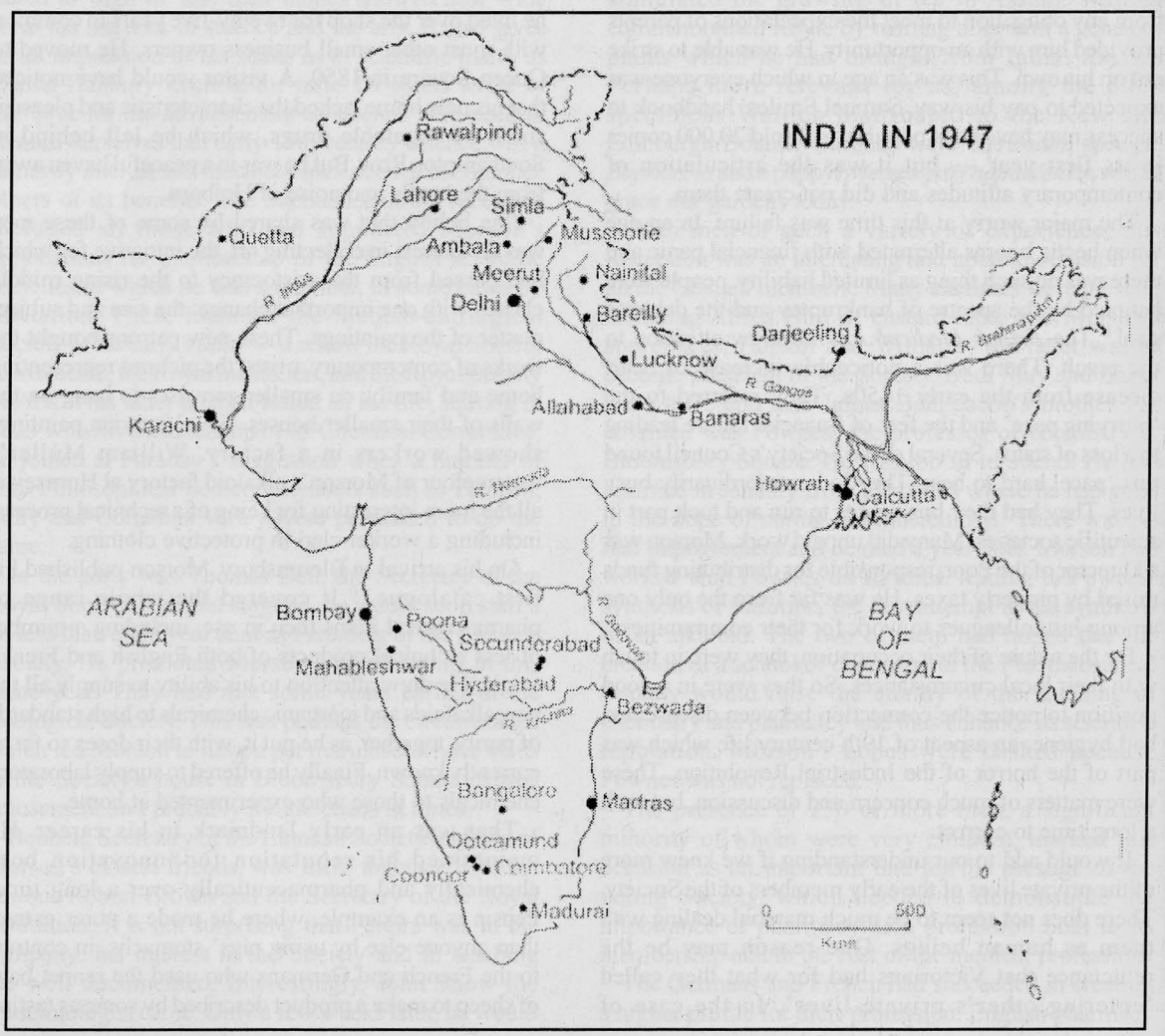
European Pharmacies in Colonial India

Professor Harkishan Singh

During the colonial days foreigners in India were mostly Europeans. For want of any better description they were termed as whites, for their being light-skinned. All the whites, irrespective of the countries of their origin, were grouped as Europeans. The European pharmaceutical



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establishments on which we focus our attention were generally managed by the British. No adequate information has become available to specifically cover the drug businesses which might have been run by other European nationals or Americans.

In the British empire, India was a place for doing lucrative business. It is understandable that European chemists and druggists also found this land promising for practising their profession. They were attracted to the locations where the population of the British was large enough to provide good returns. The main customers were the British, who used pharmaceutical services in accordance with the western system of medicine. Calcutta was the capital and was a fast growing metropolis. By 1880, Calcutta contained around one million inhabitants.[1] The European population there was probably equal to that of all other Indian cities combined. The first chemists and druggists' establishments made a beginning there from the early part of the nineteenth century. It did not take long for good chemists' businesses to start at Bombay and Madras.[2]

Calcutta is now known as Kolkata. The names of certain cities have undergone changes or modifications: Benares (Banaras), Bombay (Mumbai), Madras (Chennai), Poona (Pune), Simla (Shimla). The names used in this paper are largely as they were prevalent on the eve of independence.

The British population was mostly concentrated in the big metropolitan towns and cantonment locations. The civil and military services' personnel and their families constituted the main clientele whose pharmaceutical needs were catered by the druggists' establishments. Otherwise the number of the drug purchasing public reaching the European establishments was small, and they were from the rich native gentry. The common people could not afford to pay 'Europe prices'.[3]

As time passed several of the other principal towns in the presidencies, provinces, and native states, also had European pharmacies. Delhi received attention after the capital shifted to it from Calcutta in 1911. The summer resorts too were reached for business harvest.[4-6] The main hill stations frequented by the Europeans were Simla, Mussoorie, Nainital and Darjeeling in the Himalayas, Ootacamund and Coonoor in the Nilgris, and Mahableshwar in the Bombay Presidency.

The European chemists and druggists also added other profitable lines to their business.[4,7-13] The chemists proved to be successful businessmen. Nearly all of them were manufacturers of aerated waters, the demand for which was enormous. The chemists spread their business net fairly wide. This will be illustrated further as we consider different European establishments. Certain of them also became manufacturing chemists and analysts. The supply of photographic apparatuses, surgical instruments, hospital furnishings, toilet requisites, wines and liquors were the other branches of interest. A few even had printing presses. One drug house had its own weekly newspaper. Another even had an auction mart. In general, the European drug houses developed into general merchandise and departmental stores. The chemists felt that the more varied were their stocks, the more would be the returns from their pharmacy departments.

The larger houses, particularly in Calcutta, Bombay and Madras, were usually owned by natives or limited companies with European management but much native capital.[14,15]

The European business buildings were imposing and palatial. Several retail and drug establishments were much larger than any in England.[4] The pharmacies in Bombay and Calcutta were splendid places.[16] Looking at the shop of an English pharmacist in India and comparing it with an ordinary pharmacy in England, brought to mind the contrast between a mansion and a villa.[17]

The European establishments engaged chemists' assistants who were generally brought from Britain and they constituted the backbone of the business.[18-23] The assistants had happy and unhappy experiences of working as the subordinates. Some complained of long working hours, and inadequate remuneration, living conditions and holidays. The inhospitable climate had to be reckoned with. The others on the whole did not consider the life so bad and were satisfied on return home, richer in purse and experience. The number of qualified pharmacists varied depending upon the size of the firm.[24] Since there were no pharmacy statutes in India, it mattered little whether he was a chemist and druggist, pharmaceutical chemist, or had no qualification whatever. It was all-round practical experience which counted. In England itself, the qualification of an assistant in pharmacy was an issue for discussion.[25] The problems and experiences of chemists' assistants in India continued to be topics of debate in the columns of the British pharmaceutical periodicals.[26,27]

Several of the chemists' assistants made a success of their professional careers in India. The enterprising assistants moved up to managerial and proprietorship positions and became partners in big business. Some such cases will be cited later.

The assistants not only took care of the dispensing but also managed the business which was non-pharmaceutical in nature. The prescription trade was large and profitable.[8] Outside cities like Calcutta and Bombay the chemists' businesses were adjuncts to general stores. A greater part of the business was done through notes sent through servants; the customers appeared at the stores when it was necessary to make selections of items or for buying fancy goods. The English qualified chemist superintended the work of compounders but did not do the dispensing himself; he served the customers and checked the use of poisons.[28] The more important pharmacists' shops were dispensaries, each having a doctor attached to it.[3,12,13] The doctor examined and prescribed, and the only fee paid was the charge for medicines. The presence of doctors within the premises might not have been a general rule.

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The above gives a general account of business by chemists and druggists. Prescription pharmacy practice was generally combined with dealings in general merchandise. In certain of the establishments, the dispensing may have constituted a small part of the whole business. A better picture comes from the profiles of the selected chemists' firms which are covered next. First, the accounts are for the important establishments at Calcutta, Bombay, Poona and Madras. The subsequent coverage is of other firms of the presidencies, establishments in Mysore and Hyderabad states, and chemists in the United Provinces, the Punjab, Delhi, Quetta, and Karachi.

The European chemists and druggists were a prosperous community. The establishments made princely earnings, and enterprising drug houses grew very rich.[4] Several of the chemists and druggists made very large fortunes. The business was good, particularly in the second half of the nineteenth century. By the turn of the century, it was lamented that the business was not as fortune-making as before.[29]

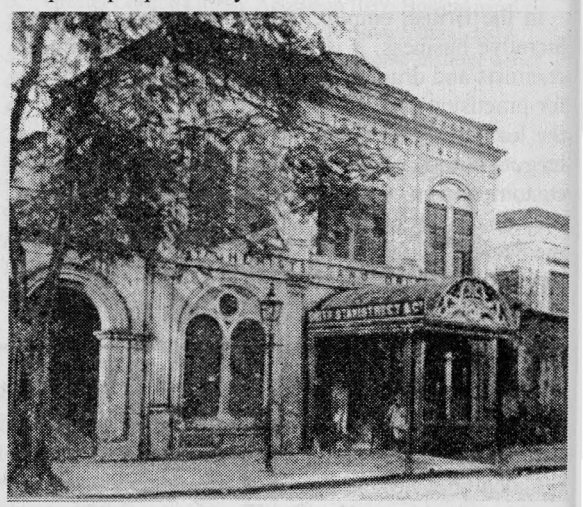
Smith, Stanistreet & Co., Calcutta

The company started in the early nineteenth century. In 1821, a small apothecary's shop was opened at 1 Radha Bazar Street, Calcutta, by surgeons S. Robinson and James Williamson.[30] There was change in ownership when in 1826 Dr John Smith joined the firm, followed by Dr Thomson Dowson Stanistreet in 1844. That is how the appellation Smith, Stanistreet & Co. for the firm was coined. However, another source of information about Smith and Stanistreet records 'The actual year in which they started business is not known, but by 1817 they were doing a good trade, and Messrs Weiss & Co., surgical instrument makers, London, still preserve a respectable order which they executed for Messrs Smith & Stanistreet in 1817.'[31] The business moved to Lall Bazar in 1844 and later to Dalhousie Square.[30]

The company became a successful enterprise, and 'the business on the pharmaceutical side steadily progressed, but by 1869 it had degenerated considerably. It was then that the late Dr Charles Noyce Kernot came on the scene.'[31,32] He was a surgeon and 'then on the sunny side of thirty'. 'Under his guidance Messrs Smith, Stanistreet & Co. (Limited), as the concern was now called, made steady development.'[31] Dr Kernot made a 'very large fortune' through the business.[4]

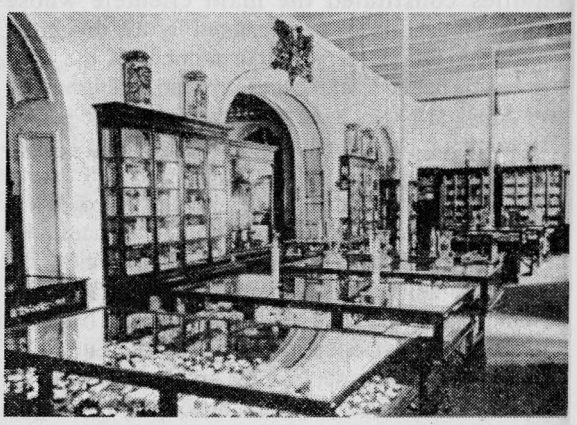
The company continued to progress under the care of Dr Kernot, until his death in 1889.[31] Now Dr Frank Charles Butt, a cousin of Dr Kernot, and pharmacist Archibald H. Symington, who had managed the business under Dr Kernot, took over the business. In 1900 they both retired in favour of Charles Frederick Baker, who had been with the concern from 1882. Baker took Walter T. Grice into partnership, who had been assistant with the firm from 1890. The business was then carried out as Messrs Smith, Stanistreet & Co.

A 1902 description indicated that the firm had four pharmacies, two in Calcutta and the others in Darjeeling and Howrah.[31,33] They employed altogether over 230 assistants and servants.[31] The headquarters was the Dalhousie Square establishment. The building in which the principal pharmacy was located was at one time the



The Pharmacy of Smith, Stanistreet & Co. in Dalhousie Square, Calcutta.[29]

Viceroy's Residency and had been given over to Smith, Stanistreet & Co. The firm occupied the whole building and in the rear, there were an aerated-water factory, manufacturing laboratories, and extensive stores. The business was retail and wholesale. They held



The Hall of Smith, Stanistreet & Co.'s Pharmacy[29]

Government contracts for galenicals and executed contracts for the fitting up of surgeries.

Smith, Stanistreet & Co. started concentrating on manufacturing. In 1915 the firm moved to Convent Road, and was converted to a limited liability concern in 1918.[30] A 1926 article stated that they manufactured strychnine, caffeine, galenicals, and many other products in large quantities in bond.[34] W. Cooper was the works manager. Smith, Stanistreet & Co. became a prominent drug manufacturer at Calcutta.

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Bathgate & Co., Calcutta

It seems that in 1811 a Scottish chemist by the name Bathgate opened a chemist's shop in the vicinity of Lal Bazar, Calcutta.[35] The business prospered and moved to a more spacious site at Old Court House Street. The pharmacy was stated to be 'the prettiest pharmacy in India'.[10] Apart from prescription services, the company added the whole range of toilet requisites.[35] The business continued to expand and the firm formed a branch at Camac Street around 1900 and a Ballygunge branch in 1910.

Among the names associated with the company at different periods were Dr Whitelaw,[35] McGregor brothers,[35] J. Anderson,[36] Andrew Gibb,[35,36] Thomas Robb,[37] Traile,[34,35] White,[34,35] Walker,[35] Sandy Lunan,[35] Adam Gardner,[35] Andrew Gillespi,[35] and Jameson Mather.[35]

At different stages there were added to the firm a photographic department, manufacture of aerated waters and galenicals, and a biological department.[35] Shortly before India attained independence, the company was converted into a limited company under Indian management. The company continued as manufacturing and dispensing chemists and druggists.

R. Scott Thomson & Co. Limited, Calcutta

This firm which was primarily engaged in pharmaceutical business also began in the nineteenth century. The earliest references found to R. Scott Thomson & Co. Limited are of the year 1894.[10,38,39] This company was described as having the 'nicest situation' with 'Government House on one side and the Volunteer parade ground on the other'.[38] The start year of the company is uncertain. There is a mention of a thirty-third annual report of the company, presented in 1896.[36] A statement elsewhere says that the firm had been 'the oldest firm of chemists in Calcutta'.[15] The company was no doubt among the three principal pharmaceutical houses at Calcutta, the other two being Smith, Stanistreet & Co. and Bathgate & Co., but insufficient material on the firm has become available

Frank Ross & Co. Limited, Calcutta

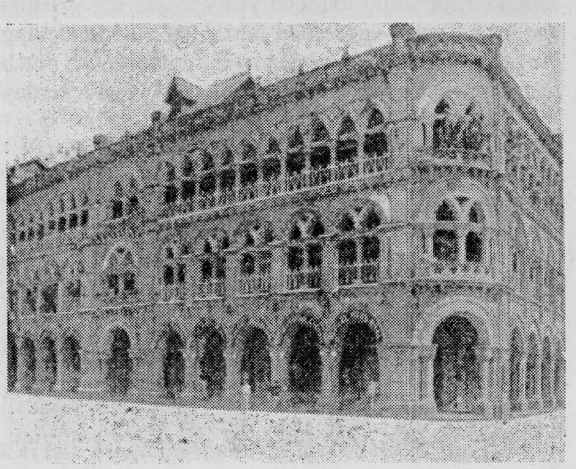
This well known English firm came into being in the early years of the twentieth century. Frank Ross founded the company at Chowringhee, Calcutta, in 1906.[40] There is a mention of Frank Ross having worked with Thomson & Taylor, Bombay, for five and half years as senior assistant, and the plan for his joining W.E. Smith & Co. Limited of Madras as manager.[41] Frank made a success of his stay with Thomson & Taylor, and at Calcutta also he was a notable professional.[40,42] Frank Ross & Co. bought some small firms and converted them into Park Street and Darjeeling branches.[40] The company did not stop at being a leading firm of dispensing chemists and distributors but also ventured into manufacturing pharmaceutical products, toiletries and proprietary household remedies. It became a public limited company in 1919, with Frank Ross as the managing director. J.S.Jebb, whom Frank brought to India around 1911, greatly added to the progress of the company as manager and company secretary.[40,43]

The firm continues in operation, and its three branches at Calcutta and one at Darjeeling are listed under the heading pharmaceutical distributors and chemists.[44,45]

Kemp & Co. Limited, Bombay

The company was rated as among 'the best chemists of the East', and an 'excellent firm of chemists in India'. D.S. Kemp & Co. was founded by David Skinner Kemp, a Scot.[46] Shortly after apprenticeship and passing the Major Examination in 1855, Kemp came to India. In 1864, he commenced business on his own account in Bombay. When he first started he had with him D.C. Watcha and P.N. Powry as partners. In 1882, the business was converted into a limited company. Kemp remained as manager until 1885 and was succeeded by John Bristed, who held the position for four years. Alfred Pell followed as the general manager and continued till around 1915.[47] Next came J. Fraser[48] who, like the founder David Kemp, was also a Scot. He had joined the company in 1884 as a junior assistant. A later reference mentions Jackson as the managing director.[49]

A 1902 description noted that Kemp & Co. occupied a palatial building in Elphinstone Circle, with branches at Byculla, Cumballa Hill, and Esplanade Road.[46] The company had a member of their staff as their agent and representative residing permanently in London. In dispensing, the firm held a record. The company had its



Kemp & Co.'s main premises, Bombay.[46]

analytical and manufacturing laboratory in Armenian Lane. The aerated-water department formed an important feature. The company had an extensive wholesale business.[50] They did not confine themselves to pharmaceuticals, but also carried out business in surgical instruments, chemicals and photographic apparatus, and stocked 'choicest wines, spirits and liqueurs'. The company were shippers of Indian drugs to the London and American markets.

Kemp & Co. took care of the literary side of a scientific

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chemist's business. The company prepared and published the *Prescriber's Pharmacopoeia,*[51] *Guide to Health for India and Tropics,*[52] *Medicine Chest Companion* and numerous pamphlets of interest both to the physician and layman.[53]

A recent source of information shows Kemp & Co. still functioning at Delhi and Bombay, with two branches at each of the stations.[54]

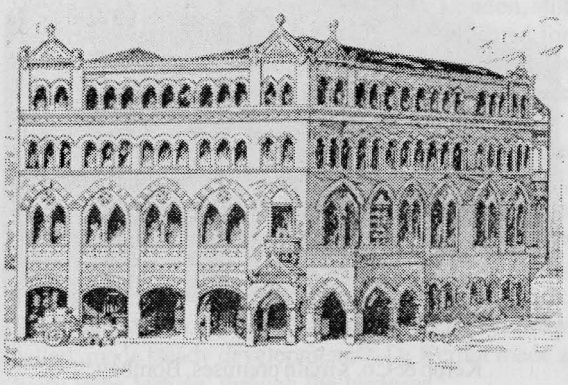
Treacher & Co. Limited, Bombay and Poona

Till around end of the nineteenth century Treacher & Co. had a flourishing business, not only in pharmaceuticals but also in items of several other categories. They were well established manufacturing and wholesale chemists.

A reference of 1885 recorded that 'The company is in its twenty-first year, and the shareholders cannot but be gratified at the successful management of the firm.'[7] Apparently the firm was established in 1864, the same year as Kemp & Co. There is insufficient information about the founder; his name was possibly William Treacher, if one can rely on the name of the company in one source being 'William Treacher & Co.'[55] It has been noted that he 'made a very large fortune'.[4]

It is not clear when the Poona unit was created, but it is evident that it was in operation in 1879.[2] The company opened a branch at Mahableshwar, the popular Bombay hill station, for the 1889 season.[56] It is uncertain if the branch continued to function later.

Treacher & Co. was efficiently managed by Edward Rammell for some fourteen years.[7,57] He left in 1886 and W.T. Tucker succeeded him.[57] On Tucker leaving the firm, William Carter became the manager.[58] A much later reference noted the appointment of W. Hockerday



Treacher & Co. Limited, Bombay.[10]

as managing director of the firm, in succession to Knowles who retired after many years' service.[59]

Treacher & Co. and Phillips & Co., covered later, were described as 'monuments of pharmaceutical enterprise' and their drug departments (including 'medical comforts') were the most profitable of their varied features.[50] The diversity of dealings is apparent from Treacher's six departments devoted: (1) chiefly to wines and liquors, provisions, furnishings, and crockery; (2) to saddlery, sporting requisites, and ammunition; (3) to jewellery and electro-plate; (4) to stationery, drawing, surveying, and photographic apparatus; (5) to general retail pharmacy; and (6) to wholesale pharmacy and surgical instruments and appliances. The assistants in all departments were for the most part qualified English chemists.

To a discerning correspondent the Treacher & Co. of Bombay appeared to be another Whiteleys.[10] The magnitude and success of the business can be judged from the fact that the company paid a 17 per cent dividend on their capital of Rs.1,000,000,[60] keeping in view the value of money at the time.

It seems that decline of the company started by turn of the century.[61] The Poona branch had to be closed in March 1915.[62]

No information is available on when Treacher & Co. went out of business. The last solitary mention is of a P.M. Lali (c/o Messrs Treacher & Co., Bombay) responding to the questionnaire issued by the Drugs Enquiry Committee 1930-31.[63-64]

Phillips & Co. Limited, Bombay and Poona

A correspondent of the *Chemist and Druggist* on a visit to the busy town of Poona in 1879 recorded that B. Phillips, hailing from Pembrokeshire, had a very flourishing pharmacy.[2] In fact, he had two pharmacies, one in the European quarter and the other in the native sector. At the time of the correspondent's visit Phillips had nearly reached his 16,000th prescription. His business was almost exclusively dispensing.

It appears that he also had his establishment at Bombay. In 1885, Phillips sold his business to a limited liability company, he himself becoming the managing director, with E. Beynon manager in Bombay and H.W. Stead manager in Poona.[28] With the change in business, the company issued a 112-page pharmacy list, which interestingly, in addition to other novelties, included 'Neem', fluid extract of Indian neem (*Azadirachta indica*), 'reputedly of great use as a febrifuge tonic'.

Phillips & Co. Limited became widely known as wholesale and manufacturing chemists. At Bombay they had houses at Bombay Fort and Byculla,[65] and later opened a branch pharmacy at Cumballa Hill.[66]

The business proved to be very successful.[50, 65, 67,68] The company was run on lines similar to Treacher & Co. Limited; the capital of Phillips & Co. was Rs.500,000.[50] In the same reference the capital of Kemp & Co. is stated as Rs 350,125.

At Bombay the competition had become keener and profits smaller. It appears that the business of the company, as of Treacher & Co., slackened. In 1902, Phillips resumed the business, to bring the company again to a satisfactory condition.[61] What happened next is not known.

Thomson & Taylor, Bombay and Poona

Thomson & Taylor, housed in an attractive building at 35 Esplanade Road, Bombay, was described as 'one of the handsomest and most charmingly placed

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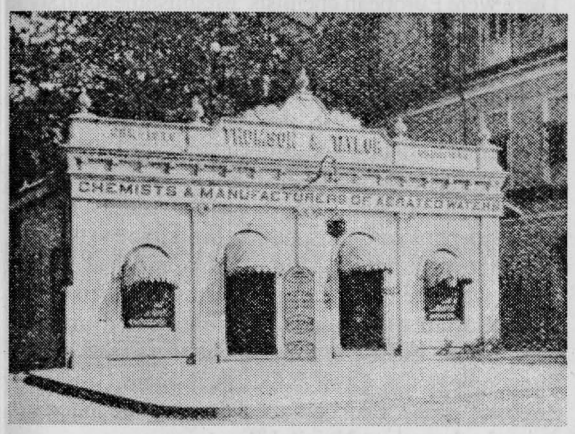
pharmacies'.[69] In 1872, George Thomson and W. C. Taylor founded the pharmacy.[46] They settled to do best class dispensing and family business. They soon added branches at Kalbadevie and Mazagon. The firm established a name as wholesale and retail chemists, importers of drugs and chemicals, and druggists' sundries.

There were changes in management but the company continued to show steady progress. Thomson died in 1878 and A. Taylor carried out the business entirely till



Thomson & Taylor, Bombay.[46]

his death in 1880. A short time later the business was purchased by W.C. Taylor, who carried it on till his demise in 1891. The Kalbadevie and Mazagon branches were disposed of. Mrs W.C. Taylor continued the business. F.W. Stewart, who had worked with Phillips & Co., became the manager.[70] Around 1893, the management was taken over by Charles Bradshaw Robinson; in a few years he acquired proprietorship of the firm.[69] Robinson had earlier

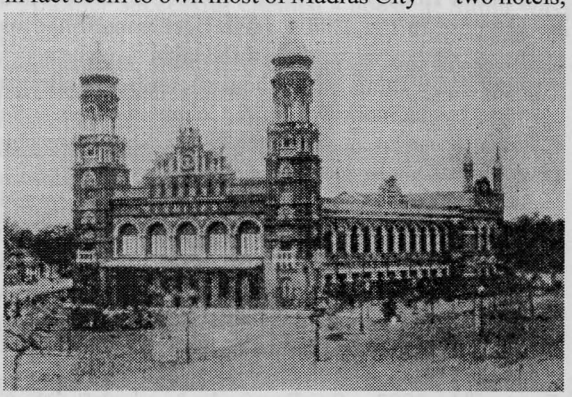
Interior of Thomson & Taylors Pharmacy.[46]

worked for ten years with Treacher & Co. A later report records the association of Frank Ross with Thomson & Taylor for five and a half years as senior assistant, and during his tenure two branch businesses were opened.[41] There is a mention of the appointment of J. Scott Emerson, assistant at Thomas & Taylor, Bombay, as manager of their Poona branch.[71] The name of James Welch also figured in relation to the firm.[72]

W.E. Smith & Co. Limited, and Spencer & Co. Limited, Madras

Based on the available information, W.E. Smith & Co. was started by W.E. Smith.[73] In 1897 it occupied a palatial establishment at Mount Read, Madras.[74] It had a large dispensary and a facility for the manufacture of aerated waters. There is a referenceto 'huge and handsome premises' of the pharmaceutical chemists W.E. Smith & Co.[75]

There is little background material available on the Spencer & Co. In a revisit to India, J.D. Marshall, who had earlier worked with D.S. Kemp & Co., recorded 'I had hoped to inspect the premises of Smith & Co., but found they have been absorbed by Spencer & Co., who in fact seem to own most of Madras City — two hotels,



W.E. Smith & Co., Mount Road, Madras[74]

a vast store, excellently arranged; indeed, almost everything'.[34] It is not clear if the take-over of Smith & Co. by Spencer & Co., the year of the deal being uncertain, constituted the beginning of chemists' business by the latter. In pharmacy circles in India the name 'Spencer & Co.' became prominent because of A.N. Lazarus, an active pharmaceutical professional, who looked after the company's pharmaceutical business. Some years back I had occasion to visit the well-ordered Chemist Show Room of Spencer & Co. Limited at Madras.

Certain other Firms in the Presidencies, and in Mysore and Hyderabad States

The paper so far has been about the prominent European-managed firms located at Calcutta, Bombay, Poona, and Madras. A few of the other companies in the Bengal, Bombay, and Madras Presidencies, and at Bangalore and Secunderabad, situated in the then Mysore and Hyderabad States, respectively are considered next.

It has already been mentioned that Smith, Stanistreet & Co., Calcutta, had branches at Darjeeling and Howrah.[31,33] J. Morgan Paull, who had worked for twelve years with Smith, Stanistreet & Co., started on his own

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as a chemist under the style of J. Morgan Paull & Co., Calcutta.[76] In the Bombay Presidency, Treacher & Co. Limited had temporarily opened a branch at Mahableshwar.[56] Apart from the major firms of Bombay, some having branches at Poona, there were certain other drug houses as well in these cities. Among these were E. Beynon & Co., Birtie Smith & Co., N. Powell & Co., and Wright & Co. at Bombay, and D. Robb & Co. at Poona.

Erasmus Beynon, who had worked with Phillips & Co.,[28] established E. Beynon & Co. at Bombay in the early 1890s.[70] It was one of the select and elegant retail pharmacies.[77] The establishment had a short existence, as it was purchased by Stanley Smith of Bertie Smith & Co.[78] The latter firm had a wholesale business. They were the sole Indian agents for saccharin, and had named their palatial building in the Appollo Street 'Saccharin House'.[79,80] N. Powell & Co., established somewhere in the 1880s, have been mentioned as chemists but they were primarily hospital furnishers.[81,82] Around 1930 there were chemists and druggists at Bombay by the name Wright & Co. about whom little is known.[83] At Poona, D. Robb & Co. was started by pharmaceutical chemist David Robb.[84]

At Madras, in addition to W.E. Smith & Co. Limited and Spencer & Co. Limited, there were Holmes & Co.[85] and Oaker & Co. Limited.[59] Spencer & Co. Limited at present also have businesses at Madurai and Coimbatore.[86]

W.E. Smith & Co. of Madras had a branch at Bangalore.[73] At one stage it was managed by J.B. Forster.[29] In 1893, after Forster had served Smith & Co. for five years, with three years at the Bangalore branch, he started for himself and set up J.B. Forster & Co. He was later joined by W.G. Paddock as a partner. The company had good arrangements for dispensing and ample trained assistance. They had diversified into other categories of business as well; having a dental surgery as part of the firm. Smith & Co. closed down their branch at Bangalore, which was acquired by Irwin Monro & Co.[87]

At Secunderabad, the most prominent firm had been C.F. Pearson & Co. Pearson, who had worked with Treacher & Co., Bombay after completing a five-year agreement with the firm, ventured into his own business and founded C.F. Pearson & Co. at Secunderabad around 1887.[37,88] It combined a pharmacy and general stores department. In addition to C.F. Pearson, the other chemists associated with the company were A. Fowler,[65] A.Wingrave,[70] and Thomas Robb.[37,89] The firm had a very fine business at this important military station. C.F. Pearson became a household name in Secunderabad. Pearson's soda was rated 'the best and purest in India'.[37] The company opened a branch at Bezwada (Vijayawada).[58] At some stage the company went out of business, since a discerning traveller in 1926 noted, 'Curiously, neither Secunderabad nor Hyderabad supports an English pharmacy; there are of course many drug shops'.[34] At the beginning of the twentieth century there was a firm Abid & Co. at Hyderabad which, though not explicit from its name, was essentially English.[90]

There was also a firm by the name of Badham, Pile & Co. Limited, who at their headquarters at Bombay, and in Poona, were mainly known as outfitters and milliners. In Secunderabad, they carried out considerable business as druggists;[91] this successful establishment was opened in 1887.[92] At the branch they also dealt with photographic and scientific equipment.

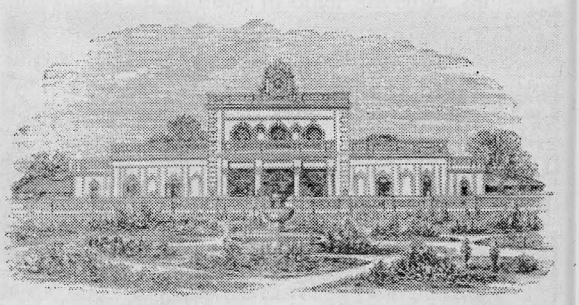
Chemists in the United Provinces

There were European chemists' establishments in some bigger towns and hill stations of the United Provinces; successful businesses were run at Lucknow, Allahabad, Meerut, Mussoorie, and Nainital.

William Champley Kidd, who had worked as an assistant at Lucknow for thirteen years, in 1893 started his own business, the English Pharmacy.[29] He carried out retail, dispensing, and wholesale business. He also dealt with photographic sundries. In addition to the Wm. C. Kidd establishment, Murray & Co. and Peake, Allen & Co. were the other European firms at Lucknow.[90]

Allahabad also had a considerable European population; business for the chemists was good.[1] Buncombe & Co., Lyell & Co., the Logans,[33] and C. T. Robbie,[93] made a success as chemists. The latter also opened a branch at Nainital.[93]

In the sacred city of Banaras, E. J. Lazarus & Co. carried out a successful business.[1] The company operated from an extensive bungalow, located in the cantonment area some three miles away from the old city. Interestingly the company in addition to running a large dispensing department, was also devoted to printing. This was an unusual business combination. Dr Lazarus, the Welsh head of the firm, had been in India for forty years, the greater part of which period he had lived



Lazarus & Co., Banaras.[1]

at Banaras. It has been noted that the firm also promoted the sale of a number of Indian remedies abroad.[94]

Meerut was another important cantonment station. The chemists Hoskins & Co.,[90] Simmonds & Co.,[90] and Howard & Co.[10] were located there. The latter also ran a printing press, an auction mart, and a brush factory among other activities. Howard & Co., Meerut, was purchased by Fitch & Co. of Mussoorie.[38]

Mussoorie, up in the Himalaya mountains, has a

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salubrious climate; the English termed this health resort the 'Brighton of India'. It was much frequented by Europeans resident in the country. There Fitch & Co. had a flourishing business. The house was founded by J. L. Lyell, who had earlier started his business at Allahabad.[4] The company was the largest and best known at Mussoorie. The business was run in a grand style. In a few years Lyell made a large fortune and other lines of business were added. Fitch & Co. became general merchants, chemists, and mineral-water manufacturers and were considered to be the 'Whiteleys' of northern India.[5] There were the main pharmacy and two branches in the town. H.G. Harris managed the chemist department. The other two successful chemists' companies at Mussoorie were J.B. & E. Samuel[4,5] and Hamer & Co.[5]

Nainital is also a charming hill station. The most enterprising druggist firm of the place was Morrison & Co. Limited.[95] Interestingly this company also published a weekly newspaper. The other druggist's shop at Nainital was Appleby & Co., whose headquarters were at Bareilly.

Pharmacies in the Punjab and Delhi

In the pre-independence Punjab, there were pharmacies managed by European chemists at Simla, Lahore, and Rawalpindi. The capital city of Delhi also attracted business.

Simla was summer capital of the Government of India; the offices moved to the city from Calcutta/ New Delhi. It was also the summer headquarters for the army and the summer capital for the Punjab. The Governor-General/Viceroy of India, Commander-in-Chief of the Indian Army, the Punjab Governor, and all the high-ranking government functionaries converged on Simla during the summer. The Indian gentry also went to the hill station where the action lay during the summer. Apparently business on the whole was good; the chemists also found the place profitable. Simla has been described as the pharmacists' Mecca.[6] The chemists' firms at Simla also had businesses at Lahore and/or Delhi.

In the early period, the two chemists' businesses at Simla were Symes & Co. and E. Plomer & Co.[29] Symes and Co. was an old-established house, which also had a branch at Ambala.[94] There is a mention of W.H. Pollard, who was acting proprietor of the firm.[60] The company had a fairly brisk trade.[33]

A brief description of the origin of E. Plomer & Co. follows. As well as the Peake, Allen & Co. at Lucknow[90] mentioned earlier, a company of the same name existed at Simla and Lahore, which changed into the Punjab Trading Company.[29] It has been stated that the Plomer business had been founded on the ruins of the Punjab Trading Company by Ebenezer Plomer and Samuel Fitz, and the business was carried out by them under the name E. Plomer & Co.

A Scot by the name Tom Bliss, who had come to India in 1863 and worked as an assistant with R. Scott Thomson & Co. at Calcutta till 1869, joined the E. Plomer & Co. at Simla as an assistant in the following year.[29] After four years he took over the firm and continued to run it under the same name. In 1877, Bliss bought the Lahore business which was then owned by R. Richardson, who had acquired it when the Punjab Trading Company was wound up in 1869. The Simla and Lahore establishments of E. Plomer & Co. were best of their kind in India. Their princial departments were retail and dispensing, wholesale, and aerated-water manufacturing. They also dealt with photographic apparatuses and chemicals. There is a mention of Plomer & Co., Simla, having opened a branch at Delhi in 1911 for the Darbar period.[96] A subsequent reference (1926) records, the Plomer's Pharmacy at Delhi being 'very well appointed and well stocked.'[34]

Another successful chemist's house at Simla was Frank Bliss & Co.[46] Frank Bliss, the proprietor of this business, was a half-brother of Tom Bliss. Frank had joined Tom's firm in 1878 as an assistant and remained in that position till the middle of the eighties. After working for two years in England he returned to India and started his own business in Simla in 1894. In 1901 he bought the business of E. Gillon & Co. at Lahore, which had been started some twenty years earlier. Like Plomer & Co., Frank Bliss & Co. also opened a branch at Delhi for the Darbar period and had an excellent business.[96]

In 1899, Tom Bliss admitted into partership his assistant William Cotton.[29] It is not known when he started it, but a 1930-31 list showed that he had his own business at Simla under the style William Cotton & Co.[97]

At Simla there also used to be a firm with the name Bliss & Cotton. Possibly Frank Bliss and William Cotton joined hands to start this joint business. The company was better known through its establishment at New Delhi, because of the association of K.R. Chandran with it, who was a very active pharmacy professional of his time.[98,99] In 1937, Chandran took over the management of Bliss & Cotton.[99] In the capital city this firm was considered to be the topmost, and they were chemists to the Viceroys of India and later also to the Presidents of India. P.S. Nagarajan was a partner of Bliss & Cotton. Chandran died in 1963, and the firm was wound up in 1979.

The above description shows that the E. Plomer & Co. and Bliss & Cotton had businesses at Delhi. It was mentioned earlier that Kemp & Co. had a business at the capital city. Another source also reveals the operation of Spencer & Co. from there.[99] The other druggist establishment at Delhi was Neal & Co.[34,99]

E. Plomer & Co. and Frank Bliss & Co. had their branches at Lahore. The other well known local pharmaceutical chemists were Smith & Campbell.[100] Wilson & Co. had a business at Rawalpindi.[90,101]

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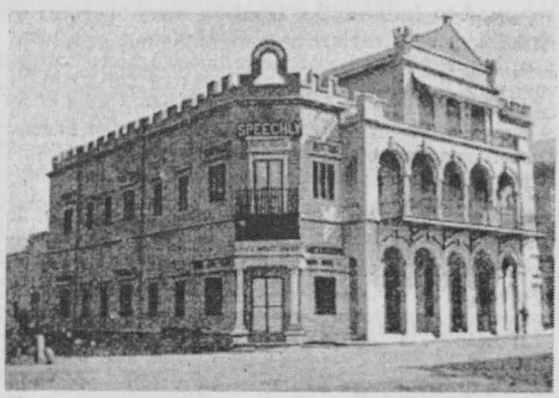
Druggists at Quetta and Karachi

Quetta and Karachi also had establishments run by European chemists. H. Baldwin, who had been with Treacher & Co., opened H. Baldwin & Co. at Quetta, at the extremity of the British territory, and reported good business.[19] However, he had to return from Quetta as his health suffered there.[94] Subsequently there followed Charles J. Milne, who started as chemist and druggist at Quetta in 1889.[29] He also added general merchandise to his business. He had earlier worked with Bathgate & Co. of Calcutta for five years, and then with J.L. Lyell (afterwards Lyell & Co. Limited) at Allahabad for six years as manager of their drug department.

At Karachi, E. Brooks & Co. were wholesale and retail druggists.[102] The other successful firm there was E. Speechly, pharmaceutical chemist.[41,103] McFadden, an assistant, gave a description of his experience of working at E. Speechly.[22]

Another Karachi firm the name of which was found from the 1930-31 list was Bliss & Co., at the time run by W.J. Parker.[104] A careful search led to the conclusion that the business was started by J. Bliss in 1897.[15] From



Premises of E. Speechly, Pharmaceutical Chemist, Karachi.[103]

the coverage of the lecture he delivered at Glasgow on his seventeen years of work in India, it appears that he reached India in 1892. To begin with he worked for E. Plomer & Co. at Lahore. After gaining experience at Lahore and the Simla establishment, he purchased a business at Karachi and started on his own.

Acknowledgements

I am grateful to The Indian National Science Academy, which supports my research on the history of pharmaceutical developments in India, and to the Wellcome Library, London for the provision of all the photographsfrom the *Pharmaceutical Journal* and *Chemist and Druggist.*

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28. Chem Drugg 1885; 27: 599.
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31. Reference 29, and see also reference 32.
32. Chem Drug 1885; 27: 431. Here it is mentioned that 'The firm was established in 1821 and became property of Dr Kernot some fifteen years since.'
33. Indian J Pharmacy 1894; 1(1): 10. The Smith, Stanistreet & Co. branch at Darjeeling was opened in 1893.
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36. Chem Drugg 1896, 49: 162.
37. Pharmacy in India. Chem Drugg 1902; 61: 730-731. T. Robb possibly joined Bathgate & Co. around 1879, and later worked with C.F. Pearson & Co., Secunderabad.
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40. Frank Ross. In Brochure 4th Indian Pharmaceutical Congress, Jaipur, 1951: 83, 85.
41. Chem Drugg 1906; 68: 630.
42. Chem Drugg 1921; 94: 424.

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44. Indian Pharmaceutical Guide 1994. New Delhi: Pamposh Publications.
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48. Chem Drugg 1917; 89: 78.
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57. Chem Drugg 1886; 28: 16,
58. Chem Drugg 1892; 40: 400
59. Chem Drugg 1911; 78: 461. The initials of Knowles not given.
60. Chem Drugg 1889; 35: 238
61. Chem Drugg 1903; 63: 82.
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66. Chem Drugg 1895; 46: 253.
67. Chem Drugg 1892; 41: 130.
68. Chem Drugg 1894; 45: 5, 287, 430.
69. Chem Drugg 1895; 47: 717.
70. Chem Drugg 1892; 40: 7.
71. Chem Drugg 1911; 78: 234. There is no further information about the Poona branch or any other branch of Thomson & Taylor.
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73. Chem Drugg 1898; 52: 272.
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76. Chem Drugg 1892; 41: 118.
77. Chem Drugg 1894; 45: 430.
78. Chem Drugg 1896; 48: 455.
79. Chem Drugg 1894; 45: 5.
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81. Chem Drugg 1915; 86: 533.
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83. Reference 63, p. 189, lists Wright & Co., Chemists and Druggists, Mint Road, Fort, Bombay.
84. Chem Drugg 1894; 45: 287.
85. Chem Drugg 1891; 38: 816.
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92. Chem Drugg 1887; 30: 422.
93. Chem Drugg 1904; 65: 356.
94. Chem Drugg 1887; 30: 607.
95. Chem Drugg 1892; 40: 760.
96. Chem Drugg 1911; 79: 910.
97. Reference 63, p. 188.
98. Report of the Pharmaceutical Enquiry Committee, Ministry of Commerce & Industry, Government of India, 1954. K.R. Chandran was a member of the Committee and his name is listed on p. 1, with the address 'Messrs Bliss & Cotton, New Delhi.'
99. Gupta, Ratan Lal. Personal Communication. R.L. Gupta is a very senior pharmacy professional, having personal knowledge of several pharmaceutical developments. Also see Indian J Pharmacy 1963; 25: 356-357.
100. Reference 63, pp. 251-254. These pages record the extract of the special memorandum presented to the Committee by W.J. Campbell of Smith & Campbell, The Mall, Lahore.
101. Reference 63, p. 202.
102. Chem Drugg 1905; 67: 533; ibid.1906; 68: 631.
103. Chem Drugg 1905; 67: 601.
104. Reference 63, p. 205.

Reviews

Leitfaden der Pharmazie-geschichte (Textbook of pharmacy history)
Helmstädter, Axel, Hermann, Jutta, and Wolf, Evemarie, 2001. Eschborn: Govi-Verlag Pharmazeutischer Verlag,; pp. 180. ISBN 3-7741-0878-1.

The aim of the authors was the presentation of pharmaceutical history in an up-to-date, concise form, a text equally useful for busy practitioners and students seeking a convenient condensed tract surveying the essentials of the pharmaceutical story.

Commencing with early concepts of medical practice, medicines and professional groups in Mesopotamian, Egyptian, Chinese, Persian, Indian, Israeli, Greek, Celtic and Roman eras and continuing with the Greek Hippocratic humoral pathology and Aristotelian scientific ideas the story leads to the Roman contributions of Dioscorides and Galen. Islamic medicine is traced through Byzantine times to the Mediterranean spread of medical practice and the foundation of schools and universities (e.g. Salerno, Montpellier, Padua, etc.).

The emergence of botany leading to pharmacognosy and modern pharmaceutical biology was accompanied by the expansion of botanical gardens and consequent research. The rise of chemistry from early alchemy via Paracelsus, the phlogiston theory and the new chemistry to organic pharmaceuticals and the development of natural product drugs e.g. alkaloids, analgesics, antipyretics. antirheumatics, etc. is outlined The history of selected drug forms e.g. ointments, plasters, tinctures, sugar and honey-based linctuses, theriac, lozenges, pills, tablets, capsules and suppositories is concisely presented. The development of German pharmacies (Apothekes) within a legal framework from 1250–1960 is summarised and pharmaceutical literature including books, pharmacopoeias and periodicals is surveyed.

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Consideration of drugs as merchandise, the fight against infections e.g. leprosy, malaria, tuberculosis, diphtheria, etc. with antitoxins, antibiotics and chemotherapeutic agents and the development of the German pharmaceutical industry completes a very useful little book.

An index of literature sources precedes a listing of German pharmaceutical institutions, details of German pharmaceutical history periodicals, indexes of names and subject matter, and the sources of illustrations.

The text has obviously been compiled by scholars with experience of the needs of students and is easily written in modern German, but even if your German is rusty this book has very useful tables that summarise the names and salient contributions of many important characters and the names of significant drugs and their discoverers in this fascinating pharmacy history tale. I am very pleased to have this volume on my bookshelf.

W.E. Court

Die Apotheken am bayerischen Untermain
(Pharmacies in the Bavarian Untermain area)
Stoll, C., 2000. Stuttgart: Wissenschaftliche Verlagsgesellschaftt, pp. 418. ISBN 3-8047-1799-3.

Unlike the British pattern, the development of Bavarian pharmacy was a continuous process from the late Middle Ages onwards. This has permitted Clemens Stoll to make a detailed study of the area designated the Bavarian Untermain and embracing a large zone surrounded by the River Main on the east, south and west sides and including the towns and districts of Alzenau, Schöllkrippen, Aschaffenburg, Obenburg and Klingenberg, Miltenberg and Amorbach, and Stadtprozelten and Rothenbuch.

In Part I Stoll discusses the administration in the old kingdom, the nature of pharmacy practice in Bavaria, the development of ordinances and rules by Archbishop Albrecht of Brandenburg (*ca* 1520) and Johann Schweikard of Kronberg (1605 and 1618), the dubious nature of much early medical practice and the resultant official physicians in Aschaffenburg from 1607–1909, and the medicinal and poisonous plants available *ca* 1800. Further detailed consideration is given to the changing rules governing pharmacy, ordinances against illegal drug trade, the apothecary taxes and supervision by visitations from 1800 onwards. The comprehensive report on a visitation to the Strauss-Apotheke in Aschaffenburg in 1896 is most informative and details are presented of the pharmacy oath, the punishment book (1862), changing trade restrictions, sales and premises valuations, ministerial permission and establishment law 1514–1949. The development of education via apprenticeship, journeymanship and examinations is followed by consideration of the eventual impact of high school studies with details of study and examination regulations and requirements into the 20th century.

Part II is devoted mainly. to a comprehensive history of 24 pharmacies in the Bavarian Untermain, offering details of inspection protocols and personnel, premises and equipment, storage facilities, work direction and drug stocks. The text presents an insight into the practice of state-controlled pharmacy over 450 years and is consolidated by numerous detailed footnote references to relevant information sources.

This volume is well supported by summary tables indicating the names and dates of the apothecary/pharmacists in the various pharmacies and the sources of such information. The index offers 204 literature references as well as a list of 29 illustrations and a register of names and authors, although there is no index of subject matter. Nevertheless, although this work is essentially German, it is well worth study and a future treatise on British pharmacy following the same excellent example would be most valuable.

W.E. Court

Records

The Royal Commission on Historic Manuscripts, in its annual *Accessions to Repositories* has reported the following accessions relating to pharmacy in **2000**:

Wellcome Library for the History and Understanding of Medicine, Archives and Manuscripts Section: Silas Mainville Burroughs, pharmaceutical engineer: letter books 1881-82; Cornelius Fletcher, chemist, Nottingham: prescription book 1827; Hedges & Son, chemists, Birmingham: patent medicines stock book 1881-96; Anonymous collections 17th-19th cent

Local Repositories in England and Scotland
Canterbury Cathedral Archives, The Precincts, Canterbury CTI 2EH: Lloyds, chemists, Canterbury; records 1900-81
Lincolnshire Archives, St Rumbold Street, Lincoln LN2 5AB: Lawsons chemists, Stamford: records, inc papers of George Arthur Johnson, chemist and druggist 19th-20th C
Northumberland Record Office, Melton Park, North Gosforth, Newcastle upon Tyne NE3: CW Usher, chemist, Amble; records 20th cent
Staffordshire and Stoke-on-Trent Archive Service: Staffordshire Record Office, County
Buildings, Eastgate Street, Stafford ST16 2LZ: Stafford Chemical Society; minutes, publicity material 1942-92
Tameside Archive Service, Tameside Local Studies Library, Astley Cheetham Public Library, Trinity Street, Stalybridge SK15 2BN: Frederick Grimke Boden, pharmacist and Royal Engineer; letters, diaries and photographs c. 1890-1918
Wirral Archives Service, Birkenhead Reference Library, Borough Road, Birkenhead L41: John Green, chemist and druggist, Birkenhead: prescription book 1850
Edinburgh City Archives, Dept Corporate Services, City Chambers, High Street, Edinburgh EH1 1YJ: Edinburgh Pharmaceutical Industries Ltd: records relating to predecessor companies

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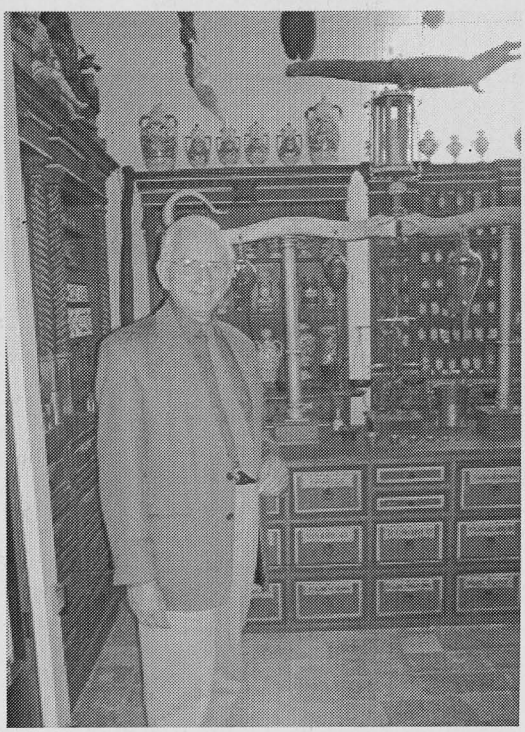
At the 35th Congress for the History of Pharmacy, held at Lucerne in September 2001.

BSHP President Dr Peter Worling and Dr John Hunt at a simultaneous translation session (above).

Dr Hunt at the History of Pharmacy Museum, Basle (below)



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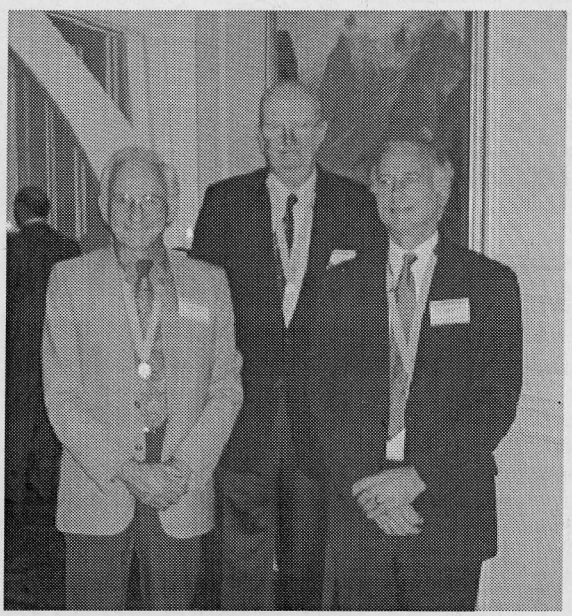
A new BSHP mug design was issued at the British Pharmaceutical Conference in Glasgow in September 2001. The Christmas Rose, *Helleborus niger*, is the ninth in the series drawn by Mary Bates for BSHP. Hellebore was used to treat melancholy and, according to Mesue, was good for mad and furious men.

The mug is available from BSHP, c/o Ann Hutton, Hawthorne House, Hatfield, Doncaster DN7 6SB, together with Poppy, Foxglove, Crocus, Iris, Datura, Marigold and Rose. Each costs £5.50 plus £1.00 p&p.



Three members of BSHP were made Members of the International Academy for the History of Pharmacy at the 35th Congress in Lucerne. Left to right: Dr John Hunt, Geoff Miller (Western Australia) and Dr Stuart Anderson.

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